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ACTIVITIES OF THE INTERNATIONAL ATOMIC ENERGY AGENCY RELEVANT TO ARTICLE IV OF THE TREATY ON THE NON-PROLIFERATION OF NUCLEAR WEAPONS

Background Paper Prepared by the Secretariat of the IAEA

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1. INTRODUCTION

Article IV of the NPT stipulates that,

> "1. Nothing in this Treaty shall be interpreted as affecting the inalienable right of all the Parties to the Treaty to develop research, production and use of nuclear energy for peaceful purposes without discrimination and in conformity with Articles I and II of this Treaty.
>
> 2. All the Parties to the Treaty undertake to facilitate, and have the right to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy. Parties to the Treaty in a position to do so shall also co-operate in contributing alone or together with other States or international organizations to the further development of the applications of nuclear energy for peaceful purposes, especially in the territories of non-nuclear-weapon States Party to the Treaty, with due consideration for the needs of the developing areas of the world."

While transfer of technology, in this context, also takes place through bilateral and other multilateral channels, the IAEA serves as one of the key international mechanisms for scientific and technical co-operation in the promotion of the peaceful use of nuclear energy and has played and continues to play an important role in the transfer of nuclear techniques to the developing areas of the world.

According to its Statute, the IAEA has pursued the twin and mutually reinforcing goals of promoting the peaceful benefits of atomic energy and verifying that nuclear materials and facilities placed under its safeguards system are used for peaceful purposes.

The IAEA General Conference has on several occasions confirmed its continuing support for an adequate balance between those of the Agency's programmes which aim at making more widely available the benefits of peaceful uses of nuclear energy and those which are designed to ensure that nuclear material is not diverted for military purposes (the safeguards system).

1.1. The Legal Framework

Facilitating the exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy, and facilitating co-operation between Member States for this purpose, as envisaged by Article IV of the NPT, are key statutory functions of the IAEA.

Article III of the IAEA's Statute authorizes the Agency, *inter alia*:

- "to encourage and assist research on, and development and practical application of, atomic energy for peaceful uses throughout the world; and, if requested to do so, to act as intermediary for the purposes of securing the performance of services or the supplying of materials, equipment, or facilities;"

- "to meet the needs of research on, and development and practical application of, atomic energy for peaceful purposes, including the production of electric power, with due consideration for the needs of the under-developed areas of the world;"

- "to foster the exchange of scientific and technical information on peaceful uses of atomic energy;"

- "to encourage the exchange and training of scientists and experts in the field of peaceful uses of atomic energy."

1.2. Mechanisms For Technology Transfer

Implementation of the above objectives and functions is undertaken by the Department of Technical Co-operation and two technical departments, the Department of Research and Isotopes and the Department of Nuclear Energy and Safety. While technology transfer through technical departments forms part of the Agency's Regular Programme and is financed through the Regular Budget, technical assistance provided by the Department of Technical Co-operation is funded largely from voluntary contributions of Member States.

2. TECHNOLOGY TRANSFER THROUGH THE IAEA'S REGULAR PROGRAMME

The major technology transfer activities carried out under the Regular Programme include information exchange through symposia, seminars, conferences and technical committee meetings, co-ordinated research programmes, publications, support services and many other activities of interest to Member States. Examples of such activities are given in Sections 2.1 to 2.5.

2.1. International Nuclear Information System (INIS)

INIS continues to be one of the Agency's principal channels for disseminating scientific and technical information. The system covers virtually every aspect of the peaceful uses of nuclear energy. In 1994, the database of the system contained nearly 1.8 million records and is growing at a rate of almost 80,000 records a year. Over 290,000 documents are stored and can be provided on microfiche.

As can be seen from **Figure 1**, participation in INIS has steadily increased since 1970. At present, this participation corresponds to 65 developing and 23 industrialized Member States as well as 17 international organizations. Most INIS system products are available to developing countries free of charge or at nominal fees.

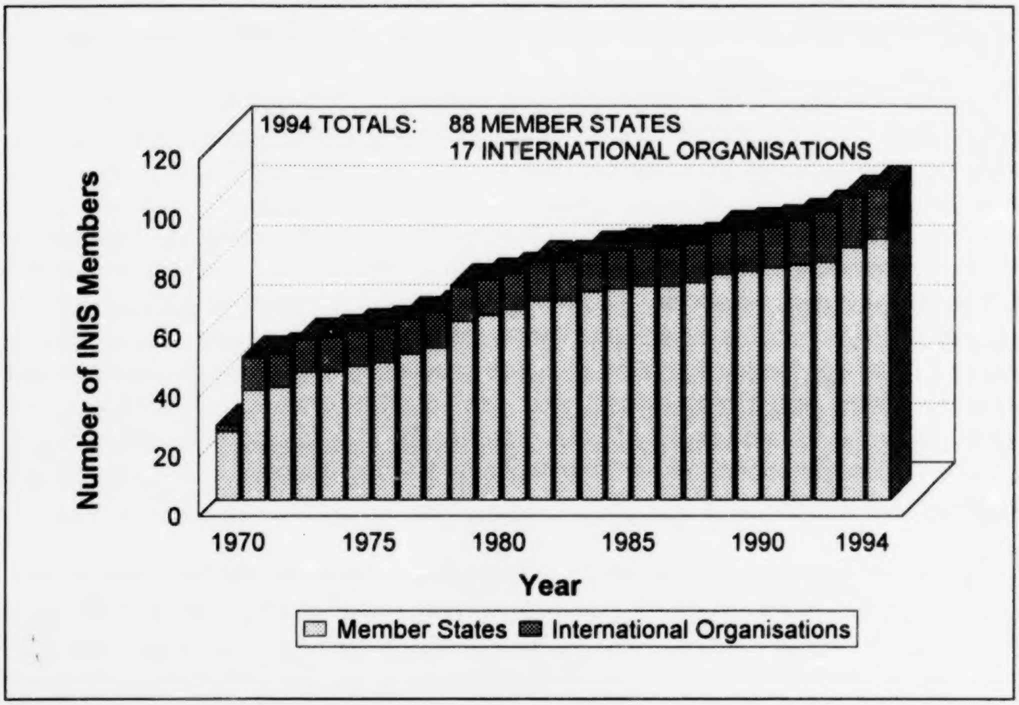


Figure 1 Annual growth of INIS membership since 1970.

2.2. Meetings and Publications

The Agency holds some 400 meetings on various topics in nuclear science and technology annually, including 10-14 major conferences, symposia and seminars, as well as a wide range of advisory group, technical committee and consultants' meetings. Most of these meetings deal with nuclear applications and techniques which are of direct benefit to developing countries and are thus in line with the objectives of technology transfer.

For various reasons, but mainly owing to financial constraints, participation in these meetings of scientists and specialists from developing Member States continues to be relatively low. For the period 1990 - 1994 the annual proportion of participants from developing countries at the Agency's major meetings fluctuated between 28% and 36%. The total number of participants attending Agency meetings in 1994 was 2,427, 673 (28%) thereof were from developing countries and 178 (26%) of them received participation grants from the Agency.

Many meetings, projects and programmes of the technical departments result in publications and technical documents which are widely disseminated to Member States. In 1994, developing countries received over 170,000 copies of IAEA publications, including cost free proceedings, technical documents, bulletins, news briefs, etc.

2.3. Centres and Laboratories (Seibersdorf, Monaco, Trieste)

Alone among other international organizations, the IAEA operates its own research and service laboratories, which contribute significantly to the transfer of nuclear technology to Member States.

The Agency's laboratories at its Headquarters in Vienna and at **Seibersdorf**, near Vienna, provide directly to Member States a diversity of technical services for programmes in physics, chemistry, hydrology, nuclear instrumentation and agriculture to assist developing countries to solve a variety of problems. The services provided in agriculture cover soil fertility, irrigation and crop production; plant breeding and genetics; animal production and health; insect and pest control; and agrochemicals. Three principal mechanisms are used by the laboratories for transferring selected techniques and technologies to national research institutions: training courses, on-the-job training, and laboratory services.

The IAEA **Marine Environment Laboratory, Monaco,** carries out studies of pollution and radioactivity in the marine environment, collaborating with oceanographic institutes worldwide and undertaking projects in co-operation with other international environmental programmes and institutions combining nuclear and non-nuclear techniques. The Laboratory participates in international experiments, marine pollution assessments and research at the request of Member States. It also conducts training courses and laboratory intercomparison exercises.

The **International Centre for Theoretical Physics (ICTP),** financed jointly by the Italian Government, UNESCO and the Agency, with some additional funds made available by other donors, is an important mechanism for the exchange and transfer of advanced scientific knowledge and skills. The main objectives of the Agency's involvement in these activities are: to foster the growth in developing countries of advanced studies and research in the physical and mathematical sciences, especially at the interface with technology; to provide an international forum for scientists from all countries; and to provide facilities to enable visitors, associates and fellows to conduct original research. The Centre is active in many scientific fields, including fundamental physics, condensed matter physics, mathematics, physics and energy, physics and the environment, physics and the living state, and applied physics and technology.

Over 3,600 scientists participated in research and training activities carried out at the Centre in 1994, of which 55% came from developing countries. The Centre has 441 Associate Members and 376 Federated Institutes in developing countries. The ICTP disseminates a very large volume of scientific information. In 1994, it distributed 45,000 items of scientific literature (journals, proceedings and books) to 500 institutions in 93 developing countries. The administrative responsibility of the Agency for ICTP will be transferred to UNESCO as soon as the tripartite agreement is finally accepted by all parties. But the Agency will still continue to support the Centre technically and financially.

2.4. Research Contract Activities

Through the Research Contract activities, the IAEA unites researchers in developing and industrialized countries in progress toward common research goals. These contracts offer guidance to scientists from the developing world and provide opportunities for scientists in all Member States to communicate freely and exchange information on research activities.

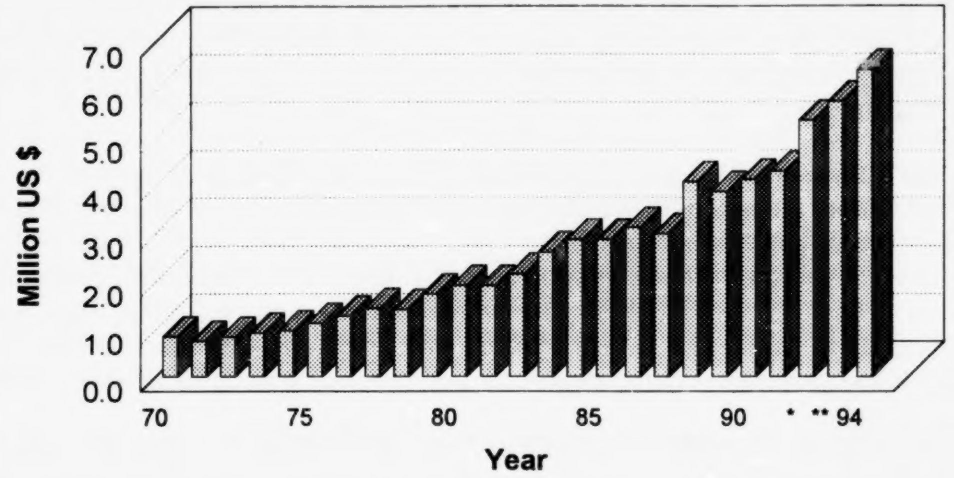
Technology transfer is carried out by placing contracts and agreements with research centres, laboratories, universities and other institutions in Member States to conduct research projects in relation to their scientific programmes. Most of these contracts and agreements are components of **Co-ordinated Research Programmes (CRPs)** — research endeavours planned by the Agency which give groups of scientists the opportunity to co-operate in tackling a common problem. Contracts offered under this programme provide a nominal award, currently averaging about $5,000 per annum.

Figure 2 shows the steady growth of Research Contract activities, financed from the Agency's Regular Budget, since the establishment of the NPT. In the **last ten years** the Agency has in this way financed research activities totaling **$42.7 million** from the Regular Budget. During the same period, additional extrabudgetary contributions to the programme totalling $7.5 million have also been received from Australia, France, Germany, Italy, Japan, the Netherlands, Sweden and the United States of America.

As an alternative to Research Contracts, which always include financial support, Research Agreements are also concluded with institutes to enable them to participate in the Research Contract Programme. These agreements are similar in nature to the contracts, but do not provide funds to the participating institute.

Research is currently being supported by the Agency under this programme in the broad fields of radioisotope and radiation applications, the protection against ionizing radiation, the conservation of the environment and nuclear fuel cycle technologies. About three quarters of the programme supports research endeavours in applications of nuclear techniques, while a quarter of the activities relate to nuclear power and safety. Research work is currently being carried out under 1950 research contracts and agreements in more than 90 Member States and involves participation in 152 CRPs.

For the transfer of scientific knowledge, 89 Research Co-ordination Meetings (RCMs) were held in 1994 in respect of 150 on-going Co-ordinated Research Programmes. 120 publications have resulted from the 25 CRPs completed and evaluated in 1994, (28 books and 92 scientific articles).



* Includes 1992 deferred programme of $ 1,858,300
** Includes 1993 deferred programme of $ 1,465,900

Figure 2 The Research Contract Programme since 1970.

2.5. Examples of Activities within The Agency's Regular Programme with a Large Component of Technology Transfer

Examples of activities within the Agency's Regular Programme with a large component of technology transfer can be found in the Agency's Annual Reports. The following examples of such activities in 1993 have been selected to illustrate the IAEA effort and contribution to the transfer of technology.

In **food and agriculture**, the use of isotopic tracers in Co-ordinated Research Programmes have led to increased efficiency of phosphorus uptake by crops and in studying the rate of soil erosion; the use of neutron moisture gauges have led to improved water use efficiency in irrigation systems.

A CRP on the radiation induction of mutation in breeding rape seed for oil has led to the release to farmers of three mutant varieties in Bangladesh and China, and in sesame the release of 19 mutant varieties in Egypt and the Republic of Korea. Significant progress has also been made using radiation induced mutations in improving plant architecture and in modifying seed oil quality and content.

Other CRPs completed in agriculture cover a wide variety of livestock species (cattle, sheep, goats, llamas, alpacas, camels and buffaloes) and agroecological zones in Africa, Asia and Latin America. These programmes focused on the use of isotopic methods to define nutritional and reproductive problems for the production of milk, meat and fibre, and on research into ways to overcome constraints in a cost effective manner.

A CRP for Asia and the Pacific, Africa and the Middle East on the **application of isotope and geochemical techniques in geothermal exploration** was completed. Institutes from 11 countries carried out investigations in low temperature geothermal areas on the Southeast Asia coast (China and Viet Nam) and on the Korean peninsula (Republic of Korea), in medium temperature areas in the Himalayas (India and Pakistan), and in high temperature fields in Iceland, Indonesia, Italy, New Zealand, the Philippines and Turkey. Isotope techniques have helped understand the hydrology of geothermal areas in order to identify the location of the resources and in particular to identify the most suitable sites for drilling the production wells.

In the application of nuclear techniques in the field of **human health,** an interregional seminar was held in Vienna where information was presented on recent advances in the application of radionuclides in the diagnosis and management of disorders of the kidney and the urinary and gastrointestinal tract. Progress was made through a CRP on optimizing radionuclide based molecular techniques for the diagnosis of tuberculosis and blood borne diseases such as hepatitis, Chagas disease, AIDS and malaria.

In the field of **industry, earth sciences and environment**, a symposium was held on the application of isotope techniques in studying past and current environmental changes in the hydrosphere and the atmosphere. The symposium demonstrated that isotopes are among the most powerful tools to investigate past environmental and climatic changes and their causes and that these studies could help to formulate hypotheses and predict changes in the 21st century.

The following examples may be given regarding the Agency's Regular Programme activities in recent years in **nuclear power related areas**.

The Agency convened a meeting in 1993 of international organizations to establish an Inter-Agency project (DECADES) on databases and methodologies for comparative assessment of different energy sources for electricity generation in terms of their impact on environment, health and other relevant parameters. The project is being carried out jointly by nine international organizations (the IAEA, CEC, ESCAP, IBRD, IIASA, OECD/NEA, OPEC, UNIDO and WMO) under the supervision of a Joint Steering Committee of representatives of all the participating organizations. The results will be presented and discussed at a Symposium on Electricity, Health and the Environment, to be held in 1995. This work is also the basis of the Agency's contribution to the activities of the Inter-Governmental Panel on Climate Change (IPCC) and of the United Nations Inter-Agency Committee on Sustainable Development (IACSD).

In 1989, the Agency started activities to investigate the potential of sea water desalination for production of potable water under economic conditions. A report has been prepared containing a review of the most up-to-date of desalination processes and possible coupling schemes with nuclear reactors. At the same time, the IAEA is assisting countries (in particular from North Africa and Saudi Arabia) in feasibility studies on sea water desalination.

A special report, "Policy Planning for Nuclear Power: An Overview of the Main Issues and Requirements" was published. This document, in non-technical language, reviews political, governmental, economic, financial and technical issues that must be dealt with by a government prior to and during the commitment to a safe, economic and reliable nuclear power programme.

As regards the **nuclear fuel cycle**, recent activities of particular interest to developing countries are:

- Elaboration of documents on uranium exploration and production, including environmental impact assessments.
- Preparation of technical documents on handling, treatment, conditioning and storage of radioactive waste, with emphasis on quality assurance and minimizing waste.

3. TECHNOLOGY TRANSFER THROUGH THE IAEA'S TECHNICAL CO-OPERATION PROGRAMME

The main part of the IAEA's technology transfer to Member States is undertaken through its Technical Co-operation Programme (TC Programme), administered by the Department of Technical Co-operation. This consists of projects requested by Member States and approved by the Board of Governors and covers all geographic regions and all aspects of nuclear energy for power and non-power applications. In 1995, the programme comprises of nearly 1,300 projects in over 80 developing countries. Details of the projects approved for the 1995-96 Programme are given in **Annex 1**.

In view of the size, scope and nature of the assistance provided, the TC Programme has specific conditions for implementation. Thus within the framework established by the statutory provisions referred to in Section 1.1 above, the delivery of the Agency's technical assistance is regulated by "**The Revised Guiding Principles and General Operating Rules to Govern the Provision of Technical Assistance by the International Atomic Energy Agency**", approved by the Board of Governors and issued in 1979 [INFCIRC/267]. The provision of the assistance is further regulated by a "**Revised Supplementary Agreement Concerning the Provision of Technical Assistance by the International Atomic Energy Agency**", which is concluded by the Agency and the recipient Member State. Both documents contain, *inter alia*, provisions concerning exclusively peaceful use of technical assistance provided through the IAEA TC Programme and the Agency's Safety Standards and Measures applied to such assistance.

Figure 3 shows the percentage of Member States receiving technical assistance in a given year, which have concluded a supplementary agreement with the Agency. The steep increase since 1988 shows the success of the effort made by the Agency to bring almost all recipient countries under this agreement.

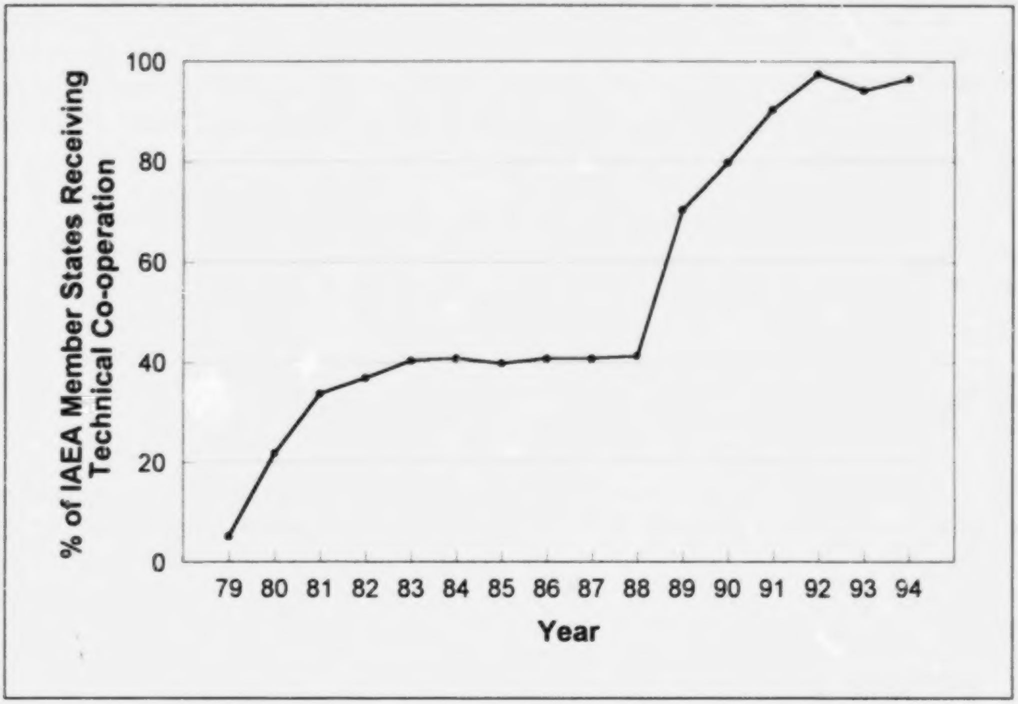


Figure 3 The percentage of IAEA Member States receiving technical assistance, that have concluded a Revised Supplementary Agreement (RSA).

After the break-up of the former Soviet Union and some countries in Central and Eastern Europe, a number of newly independent States joined the Agency during 1992-1994. Although these countries had not yet signed the Agreement, the Agency responded immediately to requests for technical assistance in order to address some of the most pressing problems.

The TC Programme comprises projects with individual Member States (national projects), regional projects and interregional projects. Many of the regional projects fall within the framework of regional co-operative agreements to which Member States of the region may choose to be party. The interregional projects cover a range of nuclear applications and supporting activities which are of common interest to a large number of developing Member States worldwide, e.g. radiation protection, waste management, programming and implementation of nuclear-related activities, application of nuclear techniques in industry, hydrology and environmental research, in diagnosis and treatment of diseases common to all countries (cancer, heart diseases), as well as in agricultural research, production and processing. These global projects include some 20 training courses annually, together with 10-12 multi-year projects through which specific advice is provided to Member States in all geographical regions.

Assistance is requested by Member States on the basis of their needs and national priorities. All Member States are entitled to receive assistance; however, TC funds "... should be allocated primarily to meet the needs of developing countries ..." [INFCIRC/267].

The delivery of the TC Programme is facilitated by grouping recipient countries administratively into five regions: Africa, Latin America, East Asia and Pacific, West Asia, and Europe. The countries within a region share many common features ranging from a history of intercountry co-operation to priorities in the application of specific nuclear technologies.

Common interests are also supported by co-operation among these countries through regional activities, which permit better use of resources while supporting inter-country co-operation, in particular Technical Co-operation among Developing Countries (TCDC).

3.1. TC Programme Areas

Projects in the TC Programme can be categorised into about ten programme areas, each reflecting a different area of activity of the Agency. These are: nuclear power; nuclear fuel cycle; radioactive waste management; food and agriculture; human health; industry and earth sciences; physical and chemical sciences; radiation protection; safety of nuclear installations; and direction and support.

Figure 4 shows the proportion of the total annual disbursements in each programme area, over the five-year period from 1990 to 1994, and illustrates the trends and changing directions of the TC Programme. Member States continue to attach high priority to the application of nuclear techniques in food and agriculture, the physical and chemical sciences and industry. These particular programme areas cover a wide range of development sectors and represent a major part of the total programme. Disbursements in the area food and agriculture accounted for over 22% of the total in 1994. Disbursements in the area of physical and chemical sciences ranged between 18% and 25%, while industry and earth sciences maintained an average share of about 15%. This distribution reflects the principal development aims of the TC programme, which is to seek to improve the health, welfare and the quality of life of the populations of IAEA Member States, particularly those of Least Developed Countries (LDCs), as well as to promote economic, scientific and technical development.

Another programme area which shows continued increase since 1990 is human health. Indeed the number of requests for assistance in the utilization of nuclear techniques for the diagnosis of many diseases such as leishmaniasis, Chagas disease, iodine deficiency diseases, sickle cell disease and thalassaemia and treatment by radiation therapy shows the high degree of interest and demand.

For a number of reasons, nuclear power programmes in many countries have been cut back or halted. At the same time there is increased awareness of the needs for nuclear safety and radiation protection and the TC Programme is reflecting the changing priorities by shifting emphasis accordingly. The share of disbursements from the programme in nuclear power and fuel cycle remained stationary or declined slightly, whereas the portion allotted to radiation protection, nuclear safety and radioactive waste management has risen from just under 18% to over 22 %.

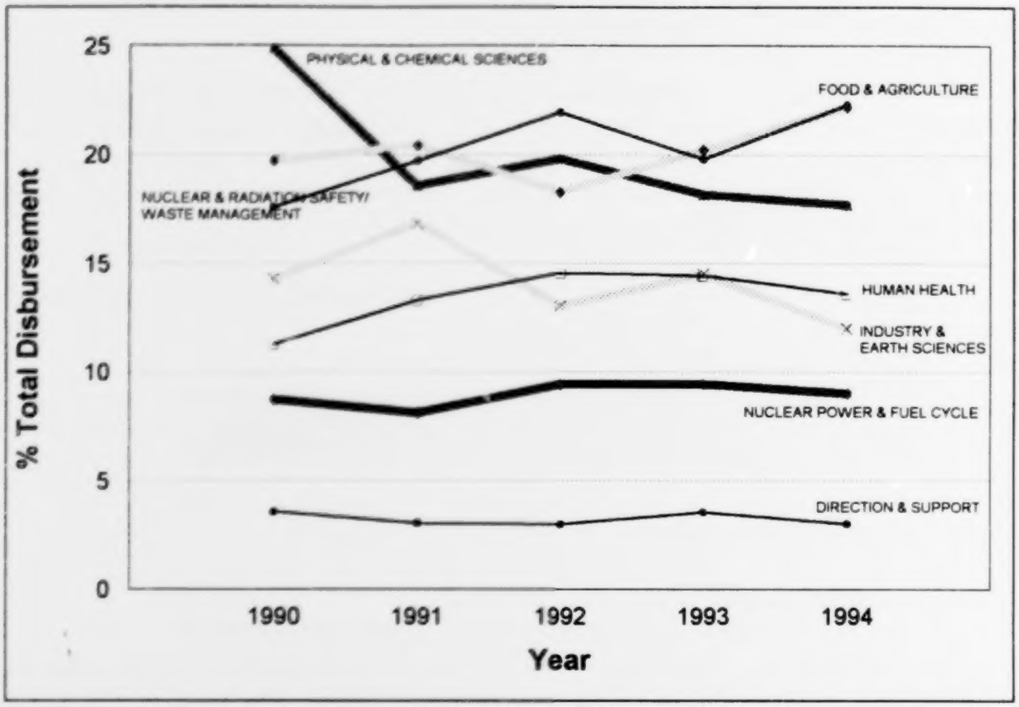


Figure 4 The percentage of total annual disbursements in each of the main programme areas of the IAEA.

Direction and support activities have been maintained steadily at around 3% to improve the servicing and co-ordination of Technical Co-operation and thereby strengthening the capacity of Member States to absorb the assistance provided.

3.2. Types of Assistance Provided

The assistance available through the TC Programme is provided mainly through three components: experts, equipment and training (fellowships, scientific visits, training courses), that support the establishment or upgrading of nuclear techniques and facilities. A particularly important area is the provision of support to set up or improve regulatory practices and radiation safety infrastructures as a prerequisite for assistance in certain fields of activity.

Since 1970, under the Agency's TC Programme, over 17,000 scientists and specialists from developing Member States have been awarded fellowships or scientific visits, and more than 18,600 participants have attended training courses. Almost 30,000 qualified experts have been assigned to assist development in Member States in areas where nuclear technology is involved, and over $290 million of equipment and materials have been delivered.

3.3. Funding The TC Programme

Whilst the administrative cost of the technical co-operation programme and the required technical support is fully borne by the regular budget of the IAEA, the assistance actually provided to the recipient countries is financed solely by voluntary contributions from Member States, made directly to the IAEA or through the United Nations Development Programme (UNDP).

Technical co-operation projects are actually financed from four separate resources:

- The Technical Assistance and Co-operation Fund (TACF)
- Extrabudgetary contributions
- In-kind contributions
- UNDP funds.

The **TACF** is the mainstay of the TC Programme, accounting for over three quarters of the total resources during the past few years. The bulk of the TACF is derived from voluntary contributions by Member States towards a target established as a result of prior consultations and recommended by the Board to the General Conference for approval by formal resolution. This target, which is now set for three or more years in advance, remained almost stationary during the first decade of the IAEA's existence. Since 1977 it has been increasing, reaching $58.5 million in 1994. Member States are encouraged to pledge their respective share of the target which is calculated essentially according to the rates used in the United Nations system for assessed contributions. The shares, pledges and payments received in 1994 are shown in **Annex 2**.

The second major resource is **extrabudgetary** income, made up of cash contributions from Member States in addition to their contributions to the TACF. This money is made available by donor countries to finance specific projects which have been recommended for approval as part of the TC Programme, but which cannot be financed through the TACF owing to insufficient resources, (so called Footnote a/ projects).

A third type of voluntary contribution is **assistance in kind**, whereby Member States provide expert services, donate equipment, or arrange fellowships, free of charge. Fellowships are of particular value to the TC Programme.

Finally, IAEA acts as executing agency for UNDP projects in areas involving nuclear science and, unfortunately in the last four years, this source of funding of the TC Programme has been minimal.

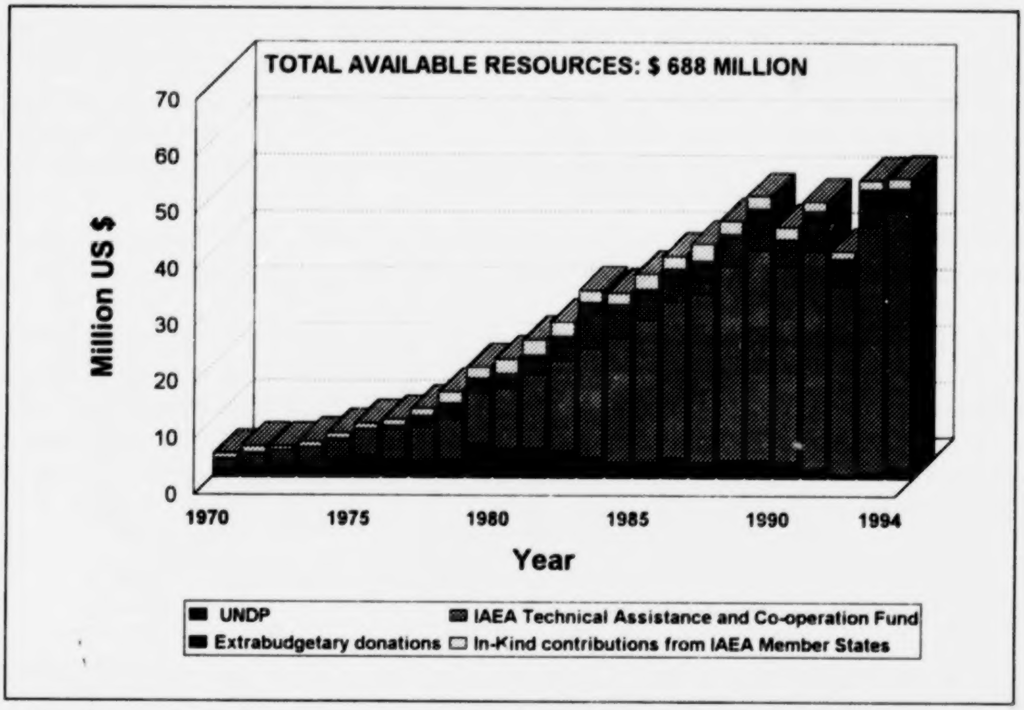


Figure 5 TC financial resources available by year and by source of funding.

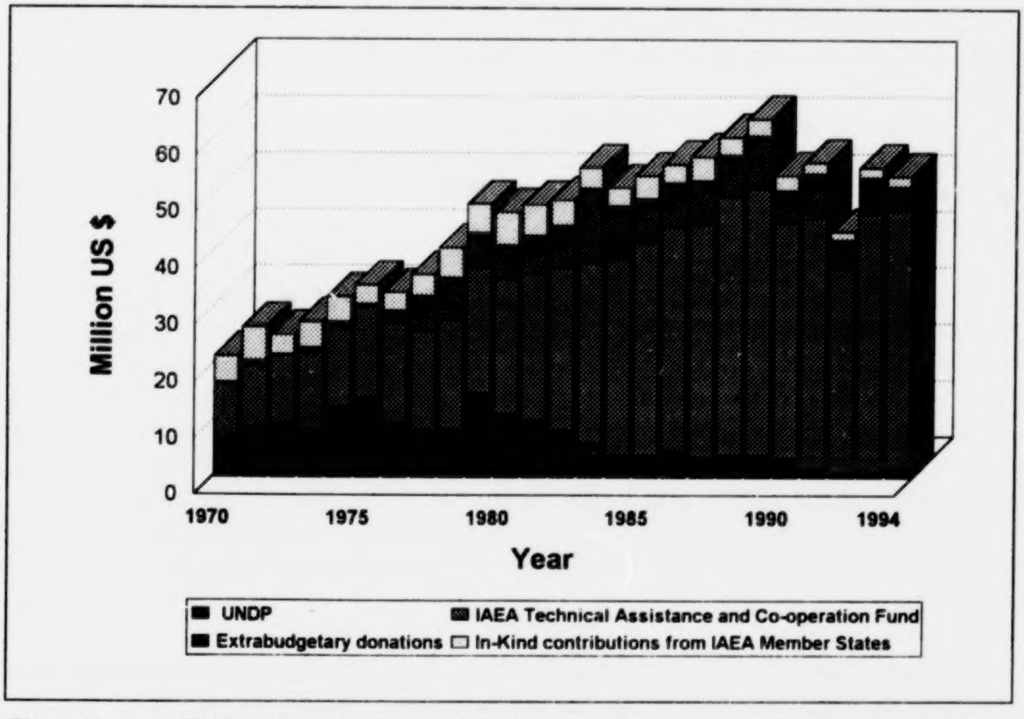


Figure 6 TC financial resources available by year and by source of funding, corrected for inflation using average annual OECD rates.

The total new resources available to the Agency's TC programme have grown from modest beginnings of about $4 million in 1970 to a peak of over $53 million in 1994, as illustrated in **Figure 5**, which shows the respective share of the TACF, extrabudgetary and UNDP resources. In terms of the nominal values, a considerable increase in the programme until 1989 can be observed. UNDP funds accounted for more than 40% of available resources in 1975, but have dropped continuously since 1979 to about 4%. Extrabudgetary and in-kind resources combined have fluctuated between 10% and 30% in any given year since 1970.

Figure 6 shows the same information corrected for inflation. It can be seen that the increase of programmable resources in real terms is not as marked as implied when using nominal values. The decrease in UNDP activities since 1980 is also clearly visible. The sharp drop in total resources, both in nominal and real terms in 1992 was due to the devaluation of the currency held by the Agency of a major donor country.

3.4. Technical Co-operation and NPT

In the preparation of the TC Programme, the Agency does not differentiate between NPT and non-NPT Member States. Projects are assessed exclusively in terms of technical and practical feasibility, national development priorities and long term advantages to end-users. This selection process is in accordance with the conditions for participating in the TC Programme as set out in INFCIRC/267.

What are the consequences of this policy? **Figure 7** to **Figure 9** shows the results of a survey undertaken for TC and Research Contract activities.

Figure 7 shows the disbursements from the TACF to Member States according to NPT status for each year since 1985. The proportion of disbursements from the TACF to non-NPT Member States has remained relatively constant, fluctuating between 16% and 20%.

The situation for extrabudgetary funding is quite different. As already stated, the value of projects approved for funding exceeds the resources available through TACF. Member States are then notified of the remaining projects as candidates for extrabudgetary support. The donor countries are free to choose the projects they are prepared to finance. Here, a clear preference is shown by donors for those in Member States party to NPT: indeed, certain Member States specifically express this preference during Board Meetings and when selecting projects to fund.

Figure 8 illustrates this situation. The proportion of disbursements from extrabudgetary funds to non-NPT Member States is much less, fluctuating between 2% and 5%.

Figure 9 shows the distribution by NPT status of Research Contract awards funded by the Regular Programme, for the five-year period 1990 to 1994.

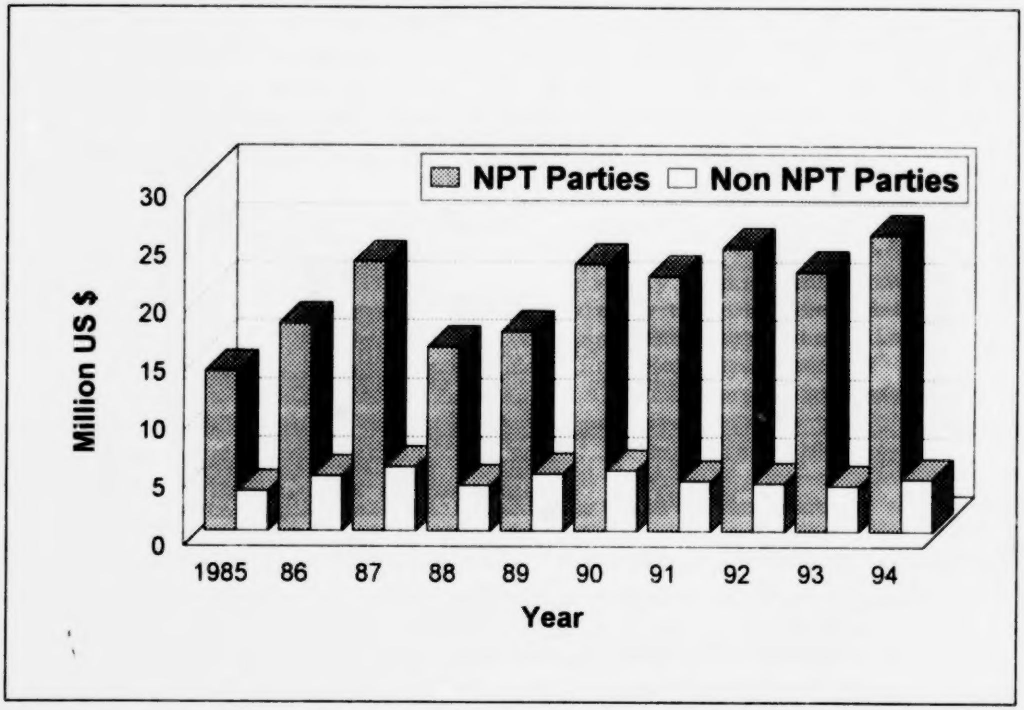


Figure 7 Disbursements from the TACF to IAEA Member States party and non-party to NPT.

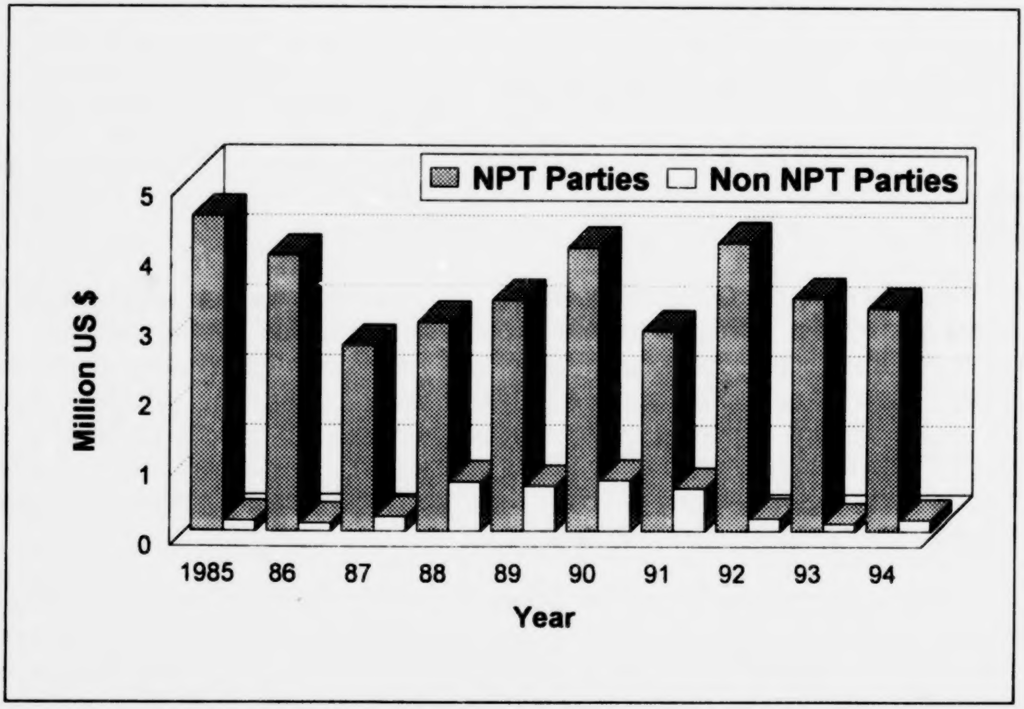
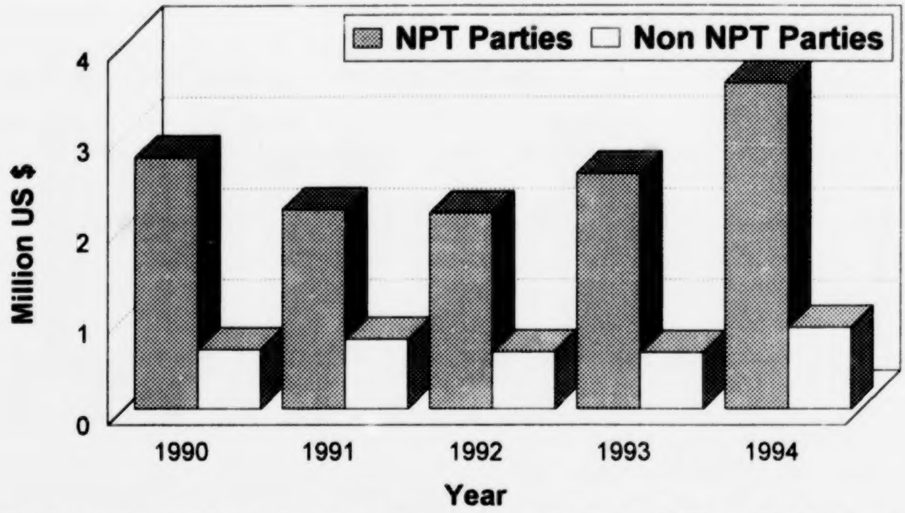


Figure 8 Extrabudgetary disbursements to IAEA Member States party and non-party to NPT.



Excluding 1992 and 1993 deferred programme, Research Coordination Meeting (RCM) and global Coordinated Research Programme (CRP) costs, which cannot be divided on a country-by-country basis.

Figure 9 Research contract awards to IAEA Member States party and non-party to NPT.

4. TRENDS IN THE TC PROGRAMME

4.1. Diversity of Conditions and Needs

In considering the IAEA's technical co-operation activities, it should be noted that developing Member States differ widely in terms of overall economic development, and, in particular, advancement in nuclear science and technology.

Seventeen of the 32 nations operating or constructing nuclear power plants are developing countries. Some of them also possess nuclear fuel cycle technology and facilities, including such sophisticated techniques as uranium enrichment, reactor fuel fabrication, spent fuel reprocessing and heavy water production. Some of these countries are already exporting certain nuclear technologies and materials and are providing bilateral assistance to other States in research, development and application of nuclear technologies. Around five other developing countries are planning to embark on nuclear power programmes in the near future.

Thirty-eight developing Member States operate 85 research reactors of various types and capacities. Nuclear scientific and technological infrastructures have been formed around the reactors, enabling these countries to conduct basic and applied research and development, radioisotope and radiopharmaceutical production, and other activities related to the use of research reactors.

Most developing Member States have gained experience in the application of isotopes and radiation in a variety of fields, including agriculture, medicine, industry and hydrology, and may be relatively advanced in some of these areas. At the same time there are Member States, particularly among LDCs, where nuclear activities consist mainly in the introduction of limited nuclear techniques and related training.

The widely differing technical assistance needs and priorities of both individual Member States as well as different groups of Member States, make the Agency's technical co-operation activities highly diverse and prevent concentration on a limited number of applications and techniques.

One particular trend that has emerged in the last years is end-user orientation. Whereas, previously, techniques were mostly transferred to specialist groups working at research establishments of national atomic energy commissions, training in and equipment for specific technologies are now increasingly delivered to the sectors concerned. For example, the end-users of medical diagnostic techniques are the hospital staff; the end-users of food irradiation technology are farmers' co-operatives and the food industry; the end users of isotopes in hydrology are the water management institutions.

4.2. Increased Intercountry Co-operation

Three major forms of intercountry technical co-operation activities are used by the Agency: regional co-operative agreements, with the principal aim of promoting and co-ordinating co-operative research, development and training projects in a wide range of nuclear applications and techniques; regional projects each of which deals with one specific nuclear technique or nuclear energy related activity; and interregional projects, normally addressing problems common to Member States in several geographical regions. The regional technical co-operation activities that started to be actively incorporated into the Agency's TC Programme in the late 1970s are an effective mechanism that permits problems common to several countries in one region to be addressed with an intensity of support that could not be provided to each country individually. Of no less importance is the fact that it promotes and facilitates Technical Co-operation among Developing Countries (TCDC).

At present there are three regional co-operative agreements: **AFRA** (Africa Regional Co-operative Agreement for Research, Development and Training); **ARCAL** (Regional Co-operative Agreement for the Development of Nuclear Science and Technology in Latin America); and **RCA** (Regional Co-operative Agreement for Research, Development and Training Related to Nuclear Science and Technology) for East Asia and the Pacific Region. Regional membership has grown steadily and today 54 IAEA Member States are participating in these agreements.

These regional co-operative agreements are concluded under the auspices of the IAEA, which also acts as secretariat and co-ordinator in the formulation and establishment of projects. In this respect the Agency fulfills three main functions: co-ordination, administration and scientific and technical support.

More than 30 multi-year regional projects are in operation, and about 40 regional training activities are carried out annually in addition to the activities within the regional co-operative agreements. The exact subjects covered by these projects and training courses reflect the priorities of the different regions. In 1995, more than 22% of the total resources available for the TC Programme are allocated to regional activities.

The contribution of developing Member States to regional technical co-operation activities is increasing. These countries host the training events and in the case of Asia and Latin America provide most of the experts for the implementation of these agreements.

The expansion of the application of nuclear techniques in developing Member States is expected to lead to an increasing trend towards regional co-operation and TCDC activities.

4.3. Increased Attention to Radiation Protection, Nuclear Safety and Radioactive Waste Management

Under its Statute, the Agency is authorized to establish or adopt standards of safety for the protection of health, life and property and to provide for their application to assisted operations. The Agency may also, if so requested, provide for the application of such standards to operations under bilateral or multilateral arrangements or to a State's own activities in the field of atomic energy. To enable the Agency to carry out these functions, the Statute provides that it shall have certain rights and responsibilities with respect to any assistance provided.

To implement these statutory provisions, The Agency's Safety Standards and Measures [INFCIRC/18 Rev.1] have been approved by the Board of Governors and are mandatory for the Agency's own operations and for Agency-assisted operations. In order to be able to apply the Standards effectively, each country must have in place a radiation safety infrastructure that includes:

- A legal framework for licensing or otherwise controlling practices involving exposure to radiation and radioactive substances;
- Provision of inspection and other compliance control activities;
- Technical capabilities to provide services such as radiation monitoring and emergency response;
- Qualified personnel to assess radiation protection programmes.

Over the years, the Agency has been assisting its developing Member States in establishing and strengthening their radiation safety (including waste management) infrastructures. A range of ways and means has been developed and is being used for this purpose, including technical meetings, provision of a large body of safety standards and guides, advisory missions, individual and group training, expert services and equipment. Most of these have been provided through the TC Programme: safety related activities — consisting of projects in the fields of radioactive waste management, radiation protection and the safety of nuclear installations — accounted for 20% of all TC disbursements in 1994, a share that has been slowly but steadily increasing from year to year.

In spite of these efforts, the radiation safety situation in many developing Member States still needs to be improved. A few countries have not yet established the appropriate infrastructure. In several other countries, although a minimum infrastructure is formally in place, the actual level of radiation safety is inadequate, mainly resulting from a lack of national support for such activities. **Radiation safety control mechanisms are deemed inadequate in more than one third of the IAEA's developing Member States.** This situation, as monitored by the Agency, is shown in **Table 1**.

TABLE 1

Percentage of the IAEA Developing Member States
lacking some components of Radiation Protection Infrastructure

COMPONENTS MISSING	% FOR YEARS WHEN MONITORED			
	1984	1987	1993	1994
General radiation protection law	28	22	16	14
Regulation/codes of practice	87	85	19	18
Licensing and inspection	74	70	43	38
Personnel monitoring	41	32	17	16
Emergency preparedness plans	86	78	43	43
Food contamination control	(-)*	88	21	21

*Not monitored in 1984

The continuing rapid growth in most developing countries in the application of nuclear techniques in agriculture, medicine, hydrology, industry, environmental surveillance and research makes the problem of radiation safety and waste management increasingly acute, requiring further enhancement of the Agency's co-operation and assistance in this direction. Therefore, in addition to large numbers of ongoing TC projects dealing with radiation safety, two interregional model projects were approved by the Board of Governors in 1993 that aim to support the upgrading of national infrastructures in radiation protection and waste management in a number of Member States to appropriate levels and standards.

5. STRENGTHENING TRANSFER OF TECHNOLOGY

Since the majority of IAEA Member States are party to NPT, it is natural that their interests and requirements are specifically reflected in the Agency's medium term plans and biennial programmes. In preparing these plans and programmes, the present situation and expected developments in the peaceful uses of atomic energy are assessed.

The growing world population and ever increasing industrialization, will require greater energy usage, particularly electricity, in the years ahead. Extensive analysis of energy options will be required at the national, regional and global levels, and important energy policy decisions are likely to be made. As there is no global intergovernmental energy organization, the IAEA will stimulate and, where necessary, co-ordinate the international effort required to assess the benefits and problems of various power options including nuclear energy.

When considering the Agency's role in contributing to the transfer of nuclear power and fuel cycle technology, it should be recognized that the nuclear industry has made great progress in commercializing many technologies and that new suppliers have appeared on the market, some of them in developing countries. The IAEA's future role should be to find more ways of supporting and assisting buyers and to remove obstacles to free choice. The Agency's traditional function of providing a forum for information exchange in this area may also expand if demand for nuclear power increases and if this increase is followed by expanded development programmes in the field of power reactor technology and design. The Agency should also be ready to respond to requests for assistance from developing countries that are considering the nuclear option, particularly in the area of manpower training.

Another effect of the increasing world population, with a major part living in developing areas, will be the need for greater supplies of food and fresh water, better health care and more access to industrial goods. Nuclear methods that can lead to improvements in the production and preservation of food, in health care, in industrial production and in the provision of fresh water supplies are increasing in number. They are often competitive with other methods - and in some cases they are the only methods available. The scope for the exchange of experience in using nuclear techniques and for transferring them to developing countries is therefore expanding. Non-power applications of nuclear energy will remain the area of technology transfer of greatest interest for a large number of Member States.

The Agency's task in the medium term will almost invariably be to create or strengthen capabilities at the national level, primarily through the TC Programme. Achieving this goal will require greater precision in identifying those areas where assistance will have the most impact. High priority will continue to be given to nuclear safety, radiation protection and waste management, to establish the minimum infrastructure to allow further expansion of the application of nuclear techniques in the various sectors of national economies.

On the basis of the above assessment and forecasts, three overall objectives were formulated for the Agency's medium term activities. Two of these objectives are particularly relevant to discussions at the 1990 NPT Review Conference on Article IV of the Treaty and are described below.

5.1. Enhancing Technical Co-operation

The objective is to enhance the transfer of nuclear technology and know-how to developing countries, specifically:

(a) To ensure, through increased interaction with the responsible governmental authorities, that the Agency's technology transfer activities are **in line with national development plans.** The aim of Agency assistance will be to strengthen the relevant national infrastructures so that they become self-supporting. Manpower development, quality control services and maintenance of nuclear instrumentation will receive more attention under this strategy. In view of the important role of the TC Programme in achieving these objectives, the traditional means and procedures for technology transfer are being reviewed to ensure delivery of a high quality programme.

(b) To help establish and strengthen national nuclear safety, radiation protection and waste management systems as a prerequisite for the development of nuclear energy programmes, mainly through the provision of training and advice.

(c) To give priority, when selecting areas for co-operation, to provision of assistance in the transfer of technology to areas involving basic human needs, such as food and water resources, health, and energy supply, and to the transfer of techniques contributing to environmental protection and **sustainable development**.

(d) To promote only those nuclear techniques in developing countries which have a clear advantage over other techniques, to this end, comparing nuclear and non-nuclear techniques, taking into account the conditions prevailing in the recipient countries.

(e) To co-operate with the relevant international organizations in establishing appropriate databases and systematically analysing the economic, health, environmental and climatic impacts of various energy options; in particular to contribute analyses and data concerning nuclear power to such studies and to make the results of this work widely available to experts in Member States.

(f) To promote the exchange of information and international discussions with interested Member States, and such parties as World Association of Nuclear Operators (WANO) and international financial institutions, with the aim of developing new schemes for financing, constructing and operating nuclear power plants in developing countries.

(g) To perform global analyses and strategic studies of selected aspects of nuclear power and the fuel cycle, including assurance of supply.

5.2. Achieving and Maintaining a High Level of Nuclear Safety

The objective is to provide international leadership and assistance in achieving and maintaining a high level of nuclear safety worldwide and minimizing the environmental impact of all types of peaceful nuclear facilities and applications, specifically:

(a) To provide international leadership and assistance to national nuclear safety authorities, especially to governmental nuclear regulatory bodies, with a view to detecting and correcting safety deficiencies in operating nuclear facilities and the prevention of accidents. To this end:

- To develop and implement a more thorough and transparent system to overview the safety of all operating nuclear installations;
- To develop a common basis for judging the acceptable level of safety of all operating nuclear power plants built to past safety standards, with direct assistance provided to Member States in performing periodical reviews of such plants and in assessing and monitoring the effects of ageing on safety.

(b) To co-ordinate the efforts of international and national bodies in reaching a consensus on safety principles for the design of future nuclear power plants.

(c) To take the lead in developing an international technical consensus on the acceptability of methods for the management and disposal of nuclear waste of all kinds, and to help gain public confidence in these matters.

(d) To provide expanded international guidance and assistance to national nuclear safety authorities to ensure the safety of research reactors, spent fuel management facilities and installations using radiation sources, with special attention to the larger research reactors and irradiation facilities.

(e) To establish a harmonized international approach to all aspects of nuclear safety, including the incorporation of the recommendations of the International Commission on Radiological Protection (ICRP) into the Agency's standards and guides.

6. CHALLENGES TO TECHNICAL CO-OPERATION

The Technical Co-operation Programme of the Agency must deal with several new challenges arising from the increased diversity and complexity of nuclear techniques and technology, and the rapid growth of the needs of developing countries for more sophisticated tools to solve the difficult social and economic problems they face.

6.1. The Environment and Sustainable Development

A number of problems identified by the United Nations Conference on Environment and Development held in Rio de Janeiro in 1992 and summarized as "**Agenda 21**" under the broad concept of "sustainable development", fall within the Agency's mandate. In a paper issued in September 1993 (**Annex 3**), the Agency described areas where its on-going activities directly support "Agenda 21" and indicated other areas where, if additional resources could be found, new initiatives could be undertaken. The paper is being updated.

Promoting the safe development of nuclear energy as a source of electric power free from carbon dioxide emissions, and the environmentally sound management of radioactive wastes, are areas where the competence of IAEA is widely recognized. Less well known but even more important for the majority of developing countries, is the use of nuclear techniques for sustainable development applied in food and agriculture, health, hydrology, industry, pollution and climatic investigation.

For example, environmentally sustainable food production is effectively assisted through the application of nuclear techniques in: mutation breeding of food crops; in reducing negative environmental impact by optimization of fertilizer usage through the investigation of nutrient uptake in crops; and in non-polluting control and eradication of insect pests affecting many crops, fruits and livestock.

The Agency has been promoting nuclear related techniques that minimize or even eliminate the environmental impact of certain industrial activities: Radiation sterilization of medical products has replaced earlier processes that used highly toxic gases which could be released to the atmosphere; Electron-beam processing technology is being developed and applied to flue gases of fossil fuel-burning plants to reduce emissions of sulphur dioxide and nitrogen oxides, gases associated with 'acid-rain'.

Ensuring the maximum effectiveness of the Agency activities in supporting the objectives of "Agenda 21" requires close co-operation with other international organizations that have sectoral responsibilities. IAEA is thus working together with the UN and other agencies through the Inter-Agency Committee on Sustainable Development established by the Administrative Committee on Coordination.

6.2. New Member States and their Needs

Following the political and economic changes in Central and Eastern Europe and Former Soviet Union, several newly independent countries have joined the Agency and others are taking the necessary steps to that effect. Many face major problems arising from past programmes in nuclear power utilization and from the application of nuclear techniques in general. Technical assistance is needed to rebuild infrastructures, establish regulatory bodies, train manpower, and support implementation of remedial measures to upgrade nuclear facilities to modern operational and safety standards, while bringing environmental problems under control. As a basis for these activities, the countries concerned need to establish internationally proven regulatory practices relating to the licensing, control and inspection of their nuclear facilities. They also need to prepare for decommissioning of a number of these facilities in the future.

It must be recognized that certain radiation protection and nuclear safety issues in these countries deriving from past and existing nuclear activities, pose considerable problems. These will need to be tackled in ways that, in many cases, have yet to be determined.

Several initiatives have been undertaken by international organizations to address these problems, but more needs to be accomplished. A joint UNDP-IAEA forum to foster information exchange and to seek technical support and funding, was held in Vienna in 1993 and attended by Ministers and senior officials of the countries concerned. As a follow up, fact finding missions were fielded to several former Soviet Union States to gather technical information and evaluate requirements, including manpower development needs. Apart from raising awareness of the needs and problems, it is highly desirable that the required resources should be forthcoming. So far however, funds for necessary remedial actions have yet to be secured. It is believed that the Agency's experience in seeking and gaining international support for such activities will play a major role in solving the problems that are being identified — a role that will continue in some cases for at least a decade. In view of urgent need to take action, the Agency has begun under its 1995-1996 TC Programme, a $4 million regional activity to assist in the implementation of safety improvements in Russian designed nuclear power plants and to strengthen nuclear safety and radioactive waste management infrastructure in the countries concerned.

6.3. Impact of Technical Co-operation

A major challenge for the Agency and the Member States involved in the TC Programme is to maximize the **impact** of individual projects at the country level. Impact can be reasonably assessed only in terms of some measurable factor of achievement, for example a higher yield of food crops, better product quality using non-destructive testing techniques, or better public health because of improvements in and increased use of nuclear techniques for diagnosis and treatment.

All these factors depend on the continued use of the technology or techniques by the country after the Agency input has been delivered. Sustainability is created at the national level through for example the absorptive capacity for a technique, a stable manpower situation and continued financial support. However, the prime factor is the perception at government level of the importance of the technology or technique in terms of **national development goals and priorities**.

A start was made in 1991 by sending **Country Programme Review Missions** upon request to Member States to help them define their national programme of technical co-operation with the Agency. Between 1991 and 1994, nineteen such missions were fielded. These missions help the government select meaningful technical co-operation inputs in line with its national development plans and priorities, by ensuring project "relevance". It is only by creating government awareness of the relative values of nuclear technologies, and their potential impact on achieving national development goals, that national commitment can be assured. Such assurance is essential if Agency inputs are not to support activities that are of limited or no importance in the overall national or sectoral priorities as perceived by the government, and which would therefore cease if Agency support was withdrawn.. When a request is received for assistance in the design of a specific project, the Agency is prepared to undertake **Pre-Project Missions**. This mechanism appears to be effective in assisting Member States to maximize the relevance, feasibility and hence the benefits, of the proposed project with the Agency.

As recommended by the Technical Co-operation Policy Review Seminar held in September 1994, in addition to the aforementioned programming assistance, the Agency will gradually establish a **Country Programme Framework** for its technical co-operation with each recipient Member State. This framework, covering a period of 4-6 years, would be established in close co-operation with - and with final endorsement of - the country concerned and would show the place that nuclear applications have in various sectors, the part they are expected to play in the socio-economic development of the country and key activities through which the Agency assistance would play an optimal role in reaching development objectives.

6.4. Advanced Technologies and Techniques

For over three decades, the IAEA technical co-operation activities have been geared to establishing and strengthening national infrastructures, to enable developing Member States to use nuclear techniques in various areas of research and applications. With Agency assistance, many recipient countries made significant progress in this respect by the early 1990s. Nuclear research laboratories or groups had been established in many research institutions and scientific centres; large numbers of local scientists and specialists had obtained nuclear related knowledge and skills through a wide range of training opportunities (fellowships, training courses, expert services); and nuclear regulatory and administrative systems had been established in most developing Member States.

However, as countries achieve higher levels of development, with growing proportions of their societies enjoying the benefits, their needs will increase in all areas, including science and technology. Indeed, many developing Member States having been involved in technical co-operation with the Agency for several years have reached high levels of sophistication in the application of nuclear techniques. Therefore, **new projects** for continued national development **have become more advanced, more complex, and larger** in terms of both implementation and funding.

For example, requests are increasing for assistance in establishing radioisotope production facilities (research reactors or cyclotrons), or in support of power reactor maintenance and safety activities (probabilistic safety analysis training) and environmental monitoring and remediation programmes (nuclear analytical techniques, radioactive tracer techniques, removal of SO_2 and NO_X from flue gas emissions).

Implementation of such large and complex projects requires not only serious, long term commitment from both the IAEA and the recipient country, but also, in many cases, **complementary bilateral co-operation**.

6.5. Public Acceptance of Nuclear Technology

In view of public sensitivity towards the acceptance of nuclear power and the application of nuclear techniques in such areas as agriculture, food preservation and health, the Agency will need to continue wider dissemination of information on the various aspects of nuclear applications. Acceptance is based on the public's perception of "risk" and "necessity". For example, there are rarely objections to medical diagnosis or treatment of cancer using nuclear techniques and radiation, in contrast to frequent opposition to nuclear power for electricity generation or the irradiation of foodstuffs to improve food safety.

The issue of public acceptance, however, must be primarily addressed at the national level with due participation of national atomic energy commissions or their equivalents, as well as sectoral ministries, government departments concerned, and the media. It remains for the Member States to determine whether and to what extent the IAEA should contribute factual material to a national discussion on nuclear technology and applications.

7. MEETING THE CHALLENGES

The IAEA is recognized by most governments as an **independent source of advice and assistance**, serving as a clearinghouse for information on all aspects of nuclear technology, including regulatory and radiation protection and safety issues. Furthermore, it is accepted as an "honest broker" between Member States wishing to collaborate either through Agency mechanisms or bilaterally with Agency support.

The application of nuclear techniques in areas involving basic human needs, radiation protection, nuclear safety, radioactive waste management, environmental protection and sustainable development, are major issues drawing particular attention from the Agency and its Member States.

To meet the many and diverse challenges, two courses of action are deemed necessary. The first is **to review and redirect technical co-operation** to ensure that **technology transfer** is achieved. The second is **to ensure** that the necessary **financial resources are available** at the level required to respond to the genuine needs of Member States once priorities have been carefully set and agreed by the Agency and the States concerned.

7.1. Redirection of Technical Co-operation Activities

Agency assistance has been effective in establishing and strengthening national infrastructures to enable Member States to exploit nuclear techniques. Each country builds upon this foundation its future programme of peaceful applications of atomic energy. The prime responsibility for utilizing the infrastructure created lies with the individual Member States.

Indeed, proven government commitment, a valid project objective and a clear benefit to an identified end-user are the primary considerations when projects are being appraised for inclusion in the TC Programme.

In view of these factors, the Agency is seeking to ensure that its technical co-operation projects are **in line with the Member States' national development plans,** are of a **practical** nature, are oriented towards the **end-user**, and are intended to have a significant **impact** on the development of the countries concerned. Special emphasis is being placed on projects which combine all of the above features. They are identified as **model projects** and are intended to serve as beacons for the direction in which the TC Programme is gradually moving.

This redirection of TC activities has enabled the IAEA to intensify its contacts with many national and multilateral funding organisations with a view to demonstrate that the Agency not only provides technical assistance but is becoming more and more a **partner in development**, and to mobilize on this basis additional resources for its TC Programme.

Intensive discussions concerning a gradual redirection of technical co-operation activities have stimulated efforts within the Agency towards more rational planning and implementation of individual projects and programmes. It has been proposed to introduce the concept of **integrated** handling of all forms of technical co-operation (national, regional, and interregional) **in one area of nuclear application** (e.g. food production), or nuclear-related activity (e.g. radiation protection). For projects of similar scientific content and of recurrent nature, the establishment of standard technical assistance **packages** which might include experts, training courses, fellowships and equipment is also being considered.

7.2. Meeting The Needs of Member States

What does this changing pattern mean in terms of funding the Agency's technical co-operation activities? Surprisingly, the additional resources required are remarkably small in relation to the importance and magnitude of the tasks ahead. The historical evolution of the funding of the TC Programme since the establishment of NPT, shows a steady growth of resources but also a significant shortfall over the past 10 years. In the last five years the delivery has fluctuated around a rather constant value, some $40 million per year, reflecting the various influences from both donors and recipient Member States.

Figure 10 shows the situation in respect of pledges towards and income from the TACF target for the years 1970 to 1994. In relation to the annual target for contributions approved by the IAEA General Conference, Member states are encouraged to pledge their full respective targets. However, not all pledge and pay according to their share . For example in 1994, of the 123 countries listed in **Annex 2**, only 33 pledged their whole target, 24 pledged less than full target and 66 (or 54% of all Member States) made no pledge whatsoever. Between 1973 and 1984, pledges always exceeded 90% of the target and the resulting income was nearly 100% of the target or higher. After 1984, pledges declined sharply from nearly 90% in 1985 to around 71% in 1992.

The drop in total income was even more dramatic. The lowest point registered was in 1992, when only 65.1% of the target was reached mainly due to significant losses on exchange. When inflation is taken into account, then the negative trend experienced in the TACF resources is even more pronounced. The result is that since 1984, the actual annual increases in the approved targets for contributions, have been virtually cancelled out by the relative drop in pledges and the total income

Figure 11 shows the approved TC Programme as a proportion of the value of total requests for technical assistance by Member States (represented by the 100% line), for the period 1987 to 1994. All such requests undergo appraisal by the Agency and a TC programme is proposed by the Secretariat to the Board for approval (shaded area). The portion indicated as **Core Programme**, represents that part of the programme in a given year that could be funded by the TACF. It should be noted that the core programme represents only about 50% to 60% of the initial demands coming from developing Member States. The extrabudgetary portion corresponds to the additional resources necessary to cover the **total approved programme**. This portion is divided into two parts; the funded part corresponds to projects for which extrabudgetary resources were actually received; the part not funded, represents projects which could not be implemented due to lack of financing. The remaining part that could not be recommended includes requests which: are not considered technically sound; could be accommodated within similar proposals or ongoing assistance; are premature due to inadequate infrastructure, project planning or preparation; are outside of the Agency's purview, are not sufficiently oriented towards development objectives, or do not demonstrate any obvious technology transfer.

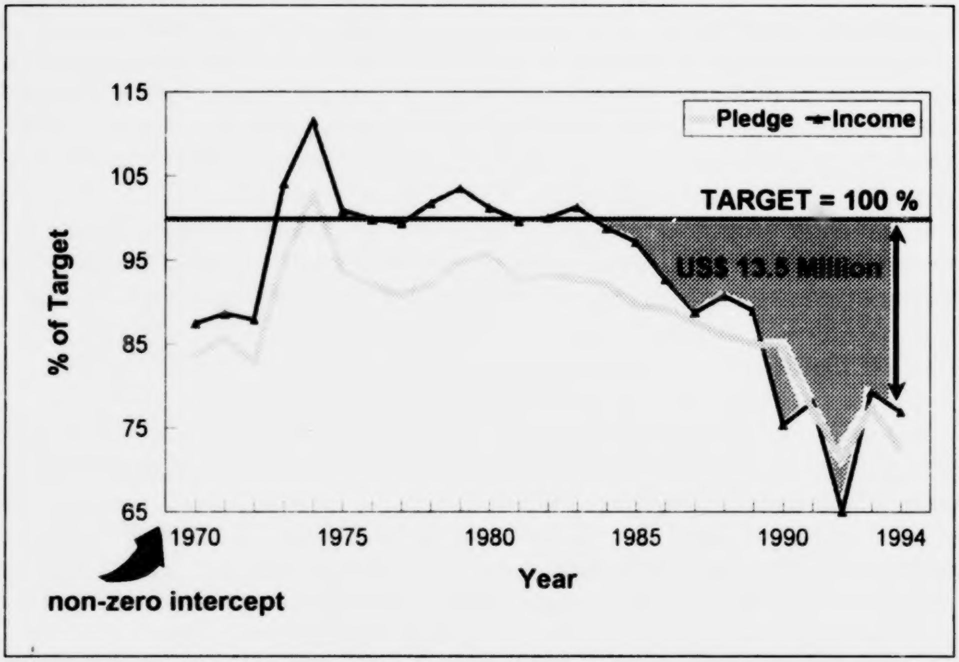


Figure 10 The pattern of pledges and income compared with target amounts for the IAEA Technical Assistance and Co-operation Fund.

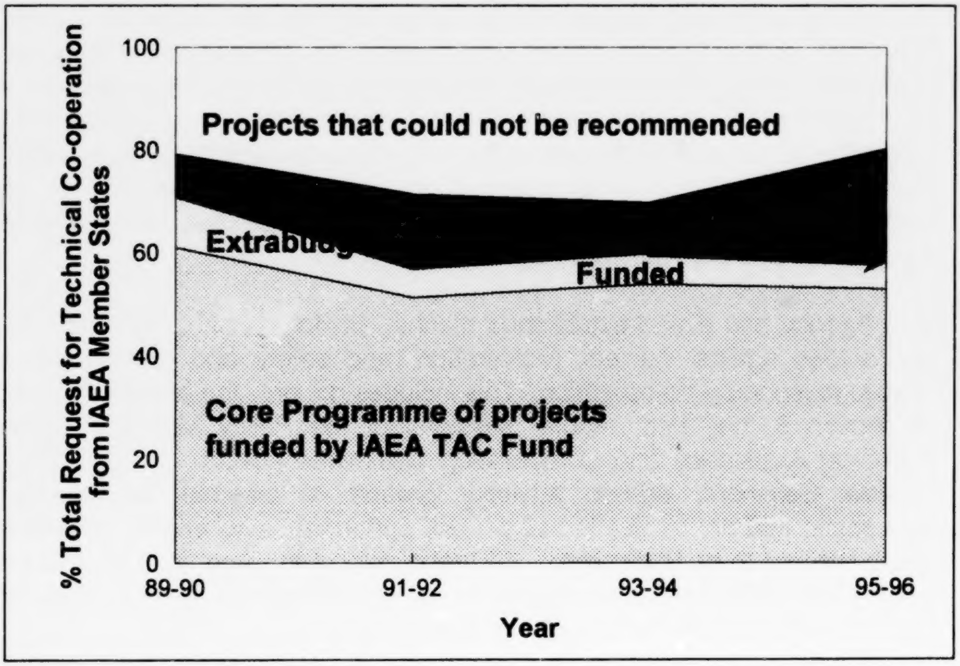


Figure 11 The TC Programme divided into a core component financed by the TAC Fund, and extrabudgetary component (financed and not financed), shown as a proportion of the total request for technical assistance by Member States. All values are averaged over two year programming periods. The funded portion for 1995-96 is estimated.

From this figure it can be concluded that, during the period considered, no funds were available to finance between 6% and 20% of the approved TC Programme and this part could not therefore be implemented. If projected to the present programme cycle (1995-96) it means that about $13-20 million of resources each year in addition to the expected income would be required for the implementation of the entire approved programme. It will be seen from **Figure 10** that this approximately amounts to the gap between the target proposed for 1994 and the actual income realised. Therefore if the pledges and payments were made according to the target, most of the approved TC programme at the present level could be funded.

8. CONCLUSION

The IAEA undertakes a multitude of activities which are in line with Article IV of the NPT, and has substantially contributed to the promotion of nuclear energy and its applications in developing Member States. In fact, for most of these countries, Agency-supported projects provided key inputs to the establishment of national infrastructures required for the introduction of nuclear techniques in such areas of basic human needs as; food production and supply, public health, industry and environment, as well as electricity generation and issues related to nuclear and radiation safety.

Basic policy and mechanisms for nuclear technology transfer to developing Member States have evolved over the years, enabling the Agency to perform its activities in an efficient manner. In particular, the following is worth mentioning:

- Transfer of technology and techniques has always ranked highly among the main objectives of the Agency, which also include the establishment of health and safety standards, the development and implementation of safeguards and extend to such matters, as, for example, the establishment of guidelines and an international convention relating to the physical protection of nuclear materials. As a result, there has been a growth of resources and an extensive involvement of the Agency's overall efforts in technology transfer activities, both under the TC Programme and the Regular Programme..

- The Agency has a well-established mechanism for considering policy matters, guarantees against nuclear proliferation, and safety and operational issues related to technical co-operation. This includes not only the provisions described in section 3, but also; regular sessions of the Policy Making Organs, the Technical Assistance and Co-operation Committee (TACC), periodic TC Policy Review Seminars, *ad-hoc* advisory groups of external consultants, and systematic internal evaluation of project performance to enable necessary in-depth reviews to be undertaken. By these means, the Agency is able to identify, generally in good time, the modifications and technical adjustments necessary to maintain the efficiency and quality of its assistance.

- Technical co-operation plays an important role in tune with the process of development of recipient Member States. In view of its structure, experience and control mechanisms against nuclear proliferation, the IAEA provides a unique instrument for the furtherance of the utilization of nuclear energy for peaceful purposes, as envisaged under Article IV of the NPT.

- There is scope for the expansion of technology transfer activities. Much could be done in spreading the benefits of nuclear energy for sustainable development, environmental protection, human health and generally for improving the quality of life. Opportunities exist and projects have been prepared. The only constraint is the level of resources, which do not match demand.

GLOSSARY OF SELECTED ITEMS USED IN THIS DOCUMENT

Adjusted programme - the total value of all technical co-operation activities approved for a given calendar year plus all approved assistance brought forward from previous years but not yet implemented.

Assistance-in-kind.-non-cash contributions made by Member States in support of specific projects or activities, such as the direct provision of equipment, experts and hosting of training.

Disbursements - actual cash outlays for goods provided and services rendered.

Earmarkings - amounts allotted for funding approved assistance awaiting implementation.

Extrabudgetary funds - funds provided by Member States for financing specific projects or activities. These funds are separate from voluntary contributions to the Technical Assistance and Co-operation Fund (TACF).

Footnote a/ projects - projects approved by the Board for which no immediate funds are available.

Funds in trust - funds received from Member States to finance assistance for themselves.

Implementation - the volume of funds obligated (new obligations) in a given period.

Implementation rate - a ratio obtained by dividing implementation by the adjusted programme (expressed as a percentage).

Technical Assistance and Co-operation Fund (TACF) - at present, the main fund for the financing of the Agency's technical co-operation activities; it is supported by voluntary contributions from Member States.

UNDP Programme - projects executed by the Agency on behalf of the United nations Development Programme and its associated funds, including United Nations Fund for Science and Technology for Development (UNFSTD).

ANNEX 1

B

International Atomic Energy Agency

BOARD OF GOVERNORS

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TECHNICAL CO-OPERATION

THE AGENCY'S PROPOSED PROGRAMME FOR 1995-96

- BY COUNTRY
- BY AGENCY SUBPROGRAMME CODE

94-04706

TECHNICAL CO-OPERATION PROJECT SCHEDULES FOR 1995-96

PRESENTED

- BY COUNTRY
- BY AGENCY SUBPROGRAMME CODE

1. ALBANIA
2. ALGERIA
3. ARGENTINA
4. ARMENIA
5. BANGLADESH
6. BELARUS
7. BOLIVIA
8. BRAZIL
9. BULGARIA
10. CAMEROON
11. CHILE
12. CHINA
13. COLOMBIA
14. COSTA RICA
15. COTE D'IVOIRE
16. CROATIA
17. CUBA
18. CYPRUS
19. CZECH REPUBLIC
20. DOMINICAN REPUBLIC
21. ECUADOR
22. EGYPT
23. EL SALVADOR
24. ESTONIA
25. ETHIOPIA
26. GHANA
27. GREECE
28. GUATEMALA
29. HUNGARY
30. INDONESIA
31. ISLAMIC REPUBLIC OF IRAN
32. IRAQ (see note no. 2)
33. JORDAN
34. KAZAKHSTAN
35. KENYA
36. REPUBLIC OF KOREA
37. LATVIA
38. LEBANON
39. LIBYAN ARAB JAMAHIRIYA (see note no.2)
40. LITHUANIA
41. MADAGASCAR
42. MALAYSIA
43. MALI
44. MAURITIUS
45. MEXICO
46. MONGOLIA

47. MOROCCO
48. MYANMAR
49. NAMIBIA
50. NICARAGUA
51. NIGER
52. NIGERIA
53. PAKISTAN
54. PANAMA
55. PARAGUAY
56. PERU
57. PHILIPPINES
58. POLAND
59. PORTUGAL
60. ROMANIA
61. SAUDI ARABIA
62. SENEGAL
63. SIERRA LEONE
64. SLOVAK REPUBLIC
65. SLOVENIA
66. SRI LANKA
67. SUDAN
68. SYRIAN ARAB REPUBLIC
69. THAILAND
70. THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA
71. TUNISIA
72. TURKEY
73. UGANDA
74. UKRAINE
75. UNITED ARAB EMIRATES
76. UNITED REPUBLIC OF TANZANIA
77. URUGUAY
78. UZBEKISTAN
79. VENEZUELA
80. VIET NAM
81. ZAIRE
82. ZAMBIA
83. ZIMBABWE
84. REGIONAL AFRICA
85. REGIONAL EAST ASIA AND THE PACIFIC
86. REGIONAL EUROPE
87. REGIONAL LATIN AMERICA
88. REGIONAL WEST ASIA
89. INTERREGIONAL

NOTES
TO THE SCHEDULES

1. The abbreviation "SPC" denotes the Agency's subprogramme code.

2. The implementation of these projects will be in accordance with the relevant Security Council resolutions.

3. An asterisk preceding the project code denotes a new project - that is, one appearing for the first time in the 1995-96 programme.

4. **(MP)** after the title of a project denotes a Model Project.

ASSISTANCE TO INDIVIDUAL MEMBER STATES
PLANNED FOR 1995-96
BY COUNTRY

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
1. ALBANIA					
PRODUCTION AND QUALITY CONTROL OF RADIOPHARMACEUTICALS	* ALB/6/006	122,400	83,400	54,200	G5
UPGRADING OF A CENTRE FOR NUCLEAR MEDICINE	* ALB/6/007	211,000	113,400	-	E1
ENVIRONMENTAL RADIOACTIVITY LABORATORY & MONITORING NETWORK	* ALB/9/003	88,140	109,200	20,460	H3
STRENGTHENING RADIATION PROTECTION INFRASTRUCTURE	* ALB/9/004	62,880	91,040	-	H0
	SUB-TOTAL	484,420	397,040	74,660	
MUTATION TECHNIQUES FOR IMPROVING WHEAT AND MAIZE	* ALB/5/006 a/	76,800	97,100	-	D2
ENVIRONMENTAL RADIOACTIVITY LABORATORY & MONITORING NETWORK	* ALB/9/003 a/	49,900	60,350	-	H3
	SUB-TOTAL	126,700	157,450	-	
2. ALGERIA					
UTILIZATION OF RESEARCH REACTOR NEUTRON BEAMS	ALG/1/010	171,400	-	-	G4
DEVELOPMENT OF IRRADIATION TECHNIQUES	* ALG/1/014	111,300	139,700	105,200	G4
ESTABLISHMENT OF A MONOCLONAL ANTIBODY PRODUCTION FACILITY	* ALG/2/005	-	46,000	44,200	G5
PRODUCTION OF RADIOPHARMACEUTICALS (PHASE II)	ALG/4/005	25,700	46,000	-	G5
MAINTENANCE AND QUALITY CONTROL OF MEDICAL EQUIPMENT	ALG/4/006	31,400	-	-	G2
MUTATION BREEDING USING IN-VITRO TECHNIQUES	ALG/5/013	31,400	22,000	-	D2
ANIMAL SCIENCE	ALG/5/014	21,400	-	-	D3
RADIATION PHYSICS LABORATORY	ALG/6/007	11,400	-	-	E3
TRACER TECHNIQUES IN SEDIMENTOLOGY STUDIES	ALG/8/006	21,400	-	-	F2
LOW LEVEL SOLID WASTE MANAGEMENT	* ALG/9/008	-	77,700	73,400	C1
RADIATION EMERGENCY PLANNING AND PREPAREDNESS	* ALG/9/009	15,600	152,000	53,400	H2
OPERATIONAL SAFETY OF THE ES-SALAM REACTOR	* ALG/9/010	22,800	24,000	-	I4
	SUB-TOTAL	463,800	507,400	276,200	
MARINE ENVIRONMENT MONITORING ALONG THE ALGERIAN COAST	* ALG/2/006 a/	92,600	116,400	63,950	C4

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
FATE OF PESTICIDES IN CITRUS FRUIT AND THEIR BY-PRODUCTS	* ALG/5/016 a/	-	48,200	43,950	D5
DEVELOPMENT OF DATING TECHNIQUES	ALG/8/007 a/	72,500	41,650	-	F2
INDUSTRIAL APPLICATION OF RADIOISOTOPES	ALG/8/008 a/	62,600	76,400	-	F1
	SUB-TOTAL	227,700	282,650	107,900	
3. ARGENTINA					
MANPOWER DEVELOPMENT	ARG/0/008	99,300	103,950	-	S3
URANIUM FAVOURABILITY AND EXPLORATION	ARG/3/007	11,400	-	-	B1
OVINE DISEASE DIAGNOSIS	ARG/5/003	38,000	31,900	-	D3
FRUIT FLY ERADICATION IN THE SOUTHERN REGION (MP)	ARG/5/005	379,000	364,500	275,100	D4
ELISA TECHNIQUE FOR CONTROL OF ANIMAL DISEASES	* ARG/5/006	53,700	78,350	132,050	D3
LABELLED COMPOUNDS IN CANCER TREATMENT	* ARG/6/006	-	90,900	63,300	E1
MASTER'S DEGREE IN MEDICAL PHYSICS	* ARG/6/007	63,000	47,200	-	E2
ESTABLISHMENT OF A HUMAN TISSUE BANK USING GAMMA RADIATION	ARG/7/005	54,600	-	-	E2
MATERIALS FOR BIOMEDICAL AND AGRICULTURAL USE	* ARG/8/011	18,000	75,450	85,200	F1
	SUB-TOTAL	717,000	792,250	555,650	
STUDY OF FACTORS LIMITING REACTOR MATERIALS LIFETIME	* ARG/4/083 a/	139,100	109,700	84,975	A2
FRUIT FLY ERADICATION IN THE SOUTHERN REGION (MP)	ARG/5/005 a/	147,800	105,800	-	D4
NUTRITION AND PRODUCTION STUDIES IN LLAMAS	* ARG/5/007 a/	61,800	65,200	48,650	D3
SOIL FERTILITY STUDIES IN THE PAMPA REGION	* ARG/5/008 a/	123,400	100,200	16,975	D1
	SUB-TOTAL	472,100	380,900	150,600	
4. ARMENIA					
SEISMIC SAFETY RE-EVALUATION OF MEDZANOR NUCLEAR POWER PLANT	ARM/9/002	50,800	59,800	59,400	I0
RESTRUCTURING NUCLEAR SAFETY REGULATORY BODY	ARM/9/003	60,300	42,900	-	I1

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
IMPROVING NATIONAL INFRASTRUCTURE FOR RADIATION PROTECTION	* ARM/9/004	68,600	67,550	86,800	H3
	SUB-TOTAL	179,700	170,250	146,200	
EXTENDING NUCLEAR TECHNIQUES IN MEDICINE	* ARM/6/002 a/	85,000	97,100	-	E1
ENVIRONMENTAL RADIATION MONITORING AROUND THE NPP	* ARM/9/005 a/	82,500	83,900	43,950	H3
ESTABLISHING A RADIOACTIVE WASTE MANAGEMENT SYSTEM	* ARM/9/006 a/	45,110	53,900	63,950	C1
	SUB-TOTAL	212,610	234,900	107,900	
5. BANGLADESH					
MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	* BGD/0/005	116,500	133,450	-	S3
RESEARCH REACTOR UTILIZATION (PHASE III)	BGD/4/018	50,900	45,800	-	A3
DEVELOPMENT OF COMPUTER CODES FOR REACTOR ENGINEERING	BGD/4/019	11,400	-	-	G4
UPGRADING NUCLEAR MEDICAL EQUIPMENT	* BGD/4/020	50,300	57,700	-	G2
INSECT PEST MANAGEMENT BY GENETIC MANIPULATION	BGD/5/016	21,400	-	-	D4
BIOFERTILIZERS FOR INCREASED LEGUME PRODUCTION **(MP)**	* BGD/5/017	74,300	57,350	20,000	D1
AGROCHEMICAL RESIDUES (PHASE II)	* BGD/5/018	36,400	45,800	-	D5
EXTENSION SERVICES TO FARMERS ON PROMISING MUTANT VARIETIES	* BGD/5/019	42,700	53,950	-	D2
INTRODUCTION OF BRACHYTHERAPY	* BGD/6/013	81,300	58,950	-	E2
TISSUE BANKING	BGD/7/005	33,900	30,400	-	E2
STRENGTHENING OF RADIATION PROTECTION INFRASTRUCTURE	BGD/9/008	49,600	66,940	-	H0
RESEARCH REACTOR SAFETY ANALYSIS	* BGD/9/009	52,000	53,350	-	I4
	SUB-TOTAL	620,700	603,690	20,000	
IMPROVING NUCLEAR MEDICINE SERVICES	* BGD/6/012 a/	238,700	130,500	-	E1
ISOTOPIC ANALYSIS IN GROUNDWATER HYDROLOGY	* BGD/8/013 a/	112,500	149,950	-	F2
	SUB-TOTAL	351,200	280,450	-	

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
6. BELARUS					
ESTABLISHMENT OF A NATIONAL INIS CENTRE	* BYE/0/002	54,700	29,900	-	S5
ENERGY AND NUCLEAR POWER PLANNING STUDY USING ENPEP	* BYE/0/003	34,800	24,000	-	A1
RAPESEED CULTIVATION ON SOILS CONTAMINATED BY RADIONUCLIDES	* BYE/5/002	70,880	46,160	-	D1
MIGRATION OF RADIONUCLIDES IN CONTAMINATED SOILS	* BYE/5/003	52,300	18,300	-	D5
ESTABLISHING REGULATORY PROCEDURES AND STANDARDS LABORATORY	* BYE/9/004	98,000	175,800	69,800	I1
	SUB-TOTAL	310,680	294,160	69,800	
ESTABLISHMENT OF RADIATION MONITORING STATIONS	BYE/9/003 a/	142,400	374,250	666,890	G2
7. BOLIVIA					
GENETIC IMPROVEMENT OF ANDEAN CROPS	* BOL/5/008	-	48,950	50,300	D2
IMPROVEMENT OF REPRODUCTION IN ANDEAN CATTLE	* BOL/5/010	-	52,000	48,000	D3
UPGRADING OF NUCLEAR MEDICINE SERVICES	BOL/6/018	67,800	84,000	-	E1
RADIOTHERAPY	BOL/6/019	203,500	218,700	-	E2
STRENGTHENING RADIOLOGICAL PROTECTION	* BOL/9/007	85,600	89,850	-	H1
	SUB-TOTAL	356,900	493,500	98,300	
ANIMAL HEALTH IN EASTERN BOLIVIA	* BOL/5/009 a/	39,200	30,100	-	D3
8. BRAZIL					
MANPOWER DEVELOPMENT	BRA/0/012	114,300	154,050	-	S3
ENERGY PLANNING FOR THE STATE OF MINAS GERAIS	* BRA/0/013	34,200	42,000	-	A1
UPGRADING MAINTENANCE AND REPAIR OF CLINICAL DOSIMETERS	* BRA/1/031	45,900	52,350	-	G2
PRODUCTION AND QUALITY CONTROL OF THERAPEUTIC RADIONUCLIDES	* BRA/2/010	68,520	72,350	-	G5
RADIOTHERAPY SOURCES AND BRACHYTHERAPY FOR CANCER TREATMENT	* BRA/4/044	84,600	99,000	-	E2
IMMUNOASSAY TECHNIQUES IN DIAGNOSIS OF ANIMAL DISEASE	BRA/5/027	16,400	-	-	D3
IMPROVING REPRODUCTIVE EFFICIENCY OF BUFFALO AND ZEBU	* BRA/5/030	48,000	45,800	-	D3
ELECTRON BEAM PURIFICATION OF FLUE GAS	BRA/8/021	51,300	54,350	-	F1

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
RADIO-INDUCED POLYMER MODIFICATION AND VULCANIZATION	BRA/8/023	71,400	-	-	F1
CHARACTERIZATION OF KARSTIC BASINS IN A SEMI-ARID REGION	* BRA/8/024	56,400	90,400	-	F2
ELECTRON BEAM PURIFICATION OF WASTEWATER	* BRA/8/025	34,600	112,900	-	F1
OFF-SITE EMERGENCY RESPONSE	BRA/9/042	24,300	80,900	-	H5
LICENCING AND OPERATIONAL SAFETY OF NUCLEAR REACTORS	BRA/9/043	31,200	105,000	-	I7
RADIATION PROTECTION IN IPEN	BRA/9/046	41,400	-	-	H2
RADIATION METROLOGY NETWORK	BRA/9/047	51,400	-	-	H0
	SUB-TOTAL	773,920	909,100	-	
UPGRADING OF SAFEGUARDS VERIFICATION MEASUREMENTS	* BRA/0/014 a/	35,500	78,140	-	J2
PRODUCTION OF IODINE 123 VIA XENON TARGET	BRA/4/043 a/	72,600	107,350	-	G5
RADIOTHERAPY SOURCES AND BRACHYTHERAPY FOR CANCER TREATMENT	* BRA/4/044 a/	208,720	19,590	-	E2
STUDIES ON SOIL-TO-PLANT TRANSFER FACTORS OF RADIONUCLIDES	* BRA/5/031 a/	59,200	20,100	-	D5
	SUB-TOTAL	376,020	225,180	-	
9. BULGARIA					
ELISA TECHNOLOGY FOR IMPROVING ANIMAL DISEASE DIAGNOSIS	BUL/5/009	16,400	17,000	-	D3
NUCLEAR TECHNIQUES FOR PRODUCTION OF CULTIVARS OF FOOD CROPS	* BUL/5/010	116,060	161,820	115,000	D2
FEASIBILITY STUDY FOR FLUE GAS CONTROL BY EB TECHNOLOGY	* BUL/8/013	57,700	-	-	F1
SEVERE ACCIDENT SIMULATOR FOR KOZLODUY NPP	* BUL/9/017	87,600	89,700	-	I5
	SUB-TOTAL	277,760	268,520	115,000	
QUALITY ASSURANCE FOR NUCLEAR POWER PLANTS	BUL/4/004 a/	180,000	200,000	-	A2
10. CAMEROON					
ISOTOPE-AIDED STUDIES OF MALNUTRITION DEFICIENCIES	* CMR/2/003	46,400	42,350	-	E4
IMPROVEMENT OF ANIMAL DISEASE DIAGNOSIS	* CMR/5/007	34,900	30,350	-	D3

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
REPLACEMENT OF COBALT-60 RADIOTHERAPY UNIT SOURCE	CMR/6/004	11,400	-	-	E2
	SUB-TOTAL	92,700	72,700	-	
11. CHILE					
MANPOWER DEVELOPMENT	CHI/0/010	33,000	103,500	-	S3
DEVELOPMENT & OPTIMIZATION OF NUCLEAR ANALYTICAL TECHNIQUES	CHI/2/013	11,400	-	-	G5
PRODUCTION AND QUALITY CONTROL OF RADIOTHERAPEUTIC AGENTS	CHI/4/019	30,000	-	-	G5
DEVELOPMENT OF LITHIUM CERAMIC MATERIALS	• CHI/4/020	144,600	144,000	-	G5
NUCLEAR & RELATED TECHN. FOR IMPROVING CATTLE PRODUCTION	CHI/5/017	21,400	-	-	D3
MANAGEMENT SYSTEMS IN CROP PRODUCTION	CHI/5/018	11,400	-	-	D1
NUCLEAR TECHNIQUES IN ANIMAL PRODUCTION	• CHI/5/019	31,400	45,350	52,000	D3
QUALITY CONTROL IN RADIOTHERAPY	• CHI/6/014	-	79,330	89,600	E2
ELECTRON BEAM TREATMENT OF FLUE GASES	• CHI/8/022	105,800	32,100	-	F1
ISOTOPE TECHNIQUES IN WATER POLLUTION STUDY	• CHI/8/023	11,400	114,860	49,040	F2
RADIATION PROTECTION IN RADIODIAGNOSTICS	CHI/9/018	62,800	-	-	H3
	SUB-TOTAL	463,200	519,140	190,640	
RIA FOR DIAGNOSIS OF CHAGAS' DISEASE (PHASE II)	• CHI/6/015 g/	91,600	-	-	E1
12. CHINA					
MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	• CPR/0/007	171,300	225,750	-	S3
PRODUCTION OF GEL TC-99M GENERATORS FOR NUCLEAR MEDICINE **(MP)**	CPR/2/006	66,400	12,000	-	G5
RADIOPHARMACEUTICALS FOR CANCER THERAPY	• CPR/2/007	82,000	26,900	-	G5
AC-600 ADVANCED PWR PASSIVE SAFETY SYSTEM STUDY	• CPR/4/016	79,500	72,400	-	I2
RULES FOR DESIGN AND MANUFACTURE OF NPP COMPONENTS	• CPR/4/017	18,600	26,400	-	I2
INDUSTRIAL SCALE IRRADIATION OF RICE AND OTHER FOODSTUFFS **(MP)**	CPR/5/009	65,400	-	-	D6
INDUCED MUTATIONS FOR IMPROVEMENT OF RICE	• CPR/5/010	79,500	84,300	54,200	D2
IMPROVEMENT OF COTTON & RAPESEED THROUGH INDUCED MUTATION	• CPR/5/011	-	120,000	142,700	D2
TRAINING TECHNOLOGISTS/PHYSICIANS IN NUCLEAR MEDICINE	• CPR/6/003	57,200	44,000	-	E1

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
QUALITY CONTROL FOR RADIATION STERILIZED TISSUE GRAFTS	* CPR/7/004	-	72,600	23,200	E2
TREATING PULP WASTE LIQUOR WITH PLASMA	* CPR/8/009	-	132,600	13,200	F1
SEVERE ACCIDENT ANALYSIS AND COUNTERMEASURES FOR QINSHAN NPP	* CPR/9/020	193,600	188,100	-	I2
OSART MISSION TO QINSHAN NUCLEAR POWER PLANT	* CPR/9/022	-	108,000	-	I3
	SUB-TOTAL	813,500	1,113,050	233,300	
SAFETY CODES AND STANDARDS FOR NUCLEAR POWER PLANTS	* CPR/9/021 a/	113,400	118,800	-	I1
13. COLOMBIA					
ENERGY PLANNING WITH REFERENCE TO A NUCLEAR OPTION	COL/0/008	11,400	12,000	-	A1
MANPOWER TRAINING IN RADIOCHEMISTRY	COL/2/013	21,300	-	-	G5
MUTATION BREEDING IN BANANAS AND PLANTAINS	COL/5/015	20,000	-	-	D2
ENVIRONMENTAL IMPACT OF SELECTED HERBICIDES	* COL/5/016	64,600	50,800	87,400	D5
MUTATION BREEDING OF PLANTAIN AND RICE	* COL/5/017	51,300	64,350	-	D2
DRUG RESISTANCE IN MALARIA PARASITES	* COL/6/007	49,900	44,350	-	E1
ESTABLISHMENT OF MEDICAL PHYSICS TRAINING	* COL/6/008	60,600	102,100	-	E3
IMPROVING RADIOACTIVE WASTE MANAGEMENT	* COL/9/005	75,600	86,700	-	C1
	SUB-TOTAL	354,700	360,300	87,400	
MODERNIZATION OF RESEARCH REACTOR IAN-RI	COL/4/013 a/	175,200	-	-	G4
14. COSTA RICA					
CONTROL OF ENVIRONMENTAL AND AGRICULTURAL PRODUCTS	* COS/2/004	77,600	70,900	-	E4
NITROGEN DYNAMICS	COS/5/016	36,000	-	-	D1
MUTATION TECHNIQUES AND BIOTECHNOLOGY	* COS/5/017	37,700	55,800	-	D2
DIAGNOSIS, MONITORING AND CONTROL OF ANIMAL DISEASES	* COS/5/019	38,000	28,900	-	D3
PAEDIATRIC NUCLEAR MEDICINE	* COS/6/009	33,700	73,000	12,600	E1
RADIOGRAPHIC CONTROL LABORATORY	COS/8/005	41,400	-	-	F1
GROUNDWATER POLLUTION STUDY	* COS/8/006	11,400	43,950	51,700	F2

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
RADIATION PROTECTION (PHASE II)	* COS/9/005	21,400	58,950	72,900	H1
	SUB-TOTAL	297,200	331,500	137,200	
PRODUCTION OF DNA PROBES (PHASE II)	* COS/5/018 a/	59,100	103,550	-	D3
PESTICIDE RESIDUES ANALYSIS FACILITY	* COS/5/020 a/	95,100	89,250	110,250	D5
NUCLEAR TECHNIQUES IN TRANSPLANT HISTOCOMPATIBILITY STUDIES	* COS/6/010 a/	61,800	20,200	-	E2
	SUB-TOTAL	216,000	213,000	110,250	
15. COTE D'IVOIRE					
ANIMAL SCIENCE	IVC/5/020	21,400	-	-	D3
RADIOIMMUNOASSAY IN ANIMAL PATHOLOGY - PHASE II	IVC/5/021	21,400	-	-	D3
ISOTOPES IN OPTIMIZING MINERAL/WATER INPUTS IN AGRICULTURE	* IVC/5/022	86,200	110,050	-	D1
ESTABLISHMENT OF RADIOIMMUNOASSAY LABORATORY	IVC/6/002	21,400	-	-	E1
	SUB-TOTAL	150,400	110,050	-	
16. CROATIA					
NUCLEAR METHODS IN MATERIAL RESEARCH	CRO/8/002	41,400	-	-	G4
INFRASTRUCTURE FOR RADIATION PROTECTION AND NUCLEAR SAFETY	CRO/9/002	116,600	84,700	-	H1
NUCLEAR POWER PROGRAMME SUPPORT	* CRO/9/005	42,000	24,000	-	C5
STRENGTHENING APPLICATIONS OF RADIATION IN MEDICINE	* CRO/9/006	83,840	66,300	-	H2
	SUB-TOTAL	283,840	175,000	-	
UPGRADING NUCLEAR ANALYTICAL SERVICES	* CRO/1/002 a/	62,500	50,350	-	G4

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
17. CUBA					
MANPOWER DEVELOPMENT	CUB/0/005	92,400	96,600	-	S3
TRAINING IN OPERATIONAL SAFETY OF NUCLEAR INSTALLATIONS	• CUB/0/006	37,820	40,240	6,300	H1
PREPARATION OF LABELLED COMPOUNDS TO STUDY PHARMACEUTICALS	• CUB/2/009	61,300	51,350	-	G5
DEVELOPMENT OF KITS FOR IMMUNOSCINTIGRAPHY	• CUB/2/010	59,420	43,000	30,000	G5
IMMUNOASSAY IN DIAGNOSIS OF ANIMAL DISEASE	CUB/5/013	21,300	17,000	-	D3
IMPROVING PLANT NUTRIENT SYSTEMS TO INCREASE CROP PRODUCTION	• CUB/5/015	66,820	67,990	28,820	D1
MUTATION BREEDING FOR TROPICAL CROP IMPROVEMENT	• CUB/5/016	73,900	82,700	20,000	D2
DEVELOPMENT & INTRODUCTION OF NUCLEONIC SYSTEMS IN INDUSTRY	• CUB/8/014	62,200	66,350	-	F1
NUCLEAR POWER PLANT SAFETY ASSESSMENT	CUB/9/008	61,900	32,350	-	I7
RADIATION PROTECTION	CUB/9/009	36,400	25,000	-	H2
SAFE TREATMENT AND DISPOSAL OF LOW LEVEL RADIOACTIVE WASTE	• CUB/9/010	70,580	69,800	26,300	C1
	SUB-TOTAL	644,040	592,380	111,420	
18. CYPRUS					
THE FATE OF HERBICIDES IN SOILS, WATER AND PLANTS	• CYP/5/016	22,280	89,300	17,600	D5
MONITORING VETERINARY DRUG RESIDUES IN MEAT & DAIRY PRODUCTS	• CYP/5/017	24,700	49,450	29,900	D3
NATIONAL POLICY AND IMPLEMENTATION OF RADIATION PROTECTION	• CYP/9/005	21,400	43,300	-	H1
	SUB-TOTAL	68,380	182,050	47,500	
19. CZECH REPUBLIC					
ASSESSMENT OF CORROSION OF ZIRCALOY CLADDING IN NUCLEAR FUEL	• CZR/4/005	52,800	89,000	-	B2
SEVERE ACCIDENT SIMULATOR FOR DUKOVANY NPP	• CZR/9/006	87,600	89,700	-	I5
SAFETY CULTURE IN REGULATORY PRACTICES	• CZR/9/008	34,200	44,400	-	I0
ENVIRONMENTAL RESTORATION FOR A SPENT FUEL AND RADWASTE SITE	• CZR/9/009	56,400	67,000	-	B3

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
RADIOACTIVE WASTE CHARACTERIZATION PROGRAMME	* CZR/9/010	37,700	46,350	-	C0
	SUB-TOTAL	268,700	336,450	-	
UPGRADING UNIVERSITY TRAINING COURSES IN REACTOR PHYSICS	* CZR/0/003 a/	36,300	63,550	-	G2
NEUTRON ACTIVATION REFERENCE LAB FOR ENVIRONMENTAL CONTROL	* CZR/2/002 a/	85,100	119,950	120,790	G5
IRRADIATION BEHAVIOUR OF NON-METALLIC MATERIALS IN WWERS	* CZR/4/006 a/	26,600	23,450	-	B2
EVALUATION OF WATER RESOURCES MONITORING	* CZR/8/002 a/	16,800	2,200	17,025	F2
REVIEW OF THE PSA PROGRAMME OF TEMELIN NPP	* CZR/9/007 a/	63,000	-	-	I7
	SUB-TOTAL	227,800	209,150	137,815	

20. DOMINICAN REPUBLIC

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
ESTABLISHMENT OF BRACHYTHERAPY SERVICES	* DOM/6/002	182,900	292,000	-	E2
MONITORING MARINE ENVIRONMENT CONTAMINANTS	* DOM/7/002	59,300	25,500	-	C4
STUDY OF THE DYNAMICS OF LAKE ENRIQUILLO	DOM/8/006	32,800	-	-	F2
QUALITY CONTROL IN RADIOTHERAPY	* DOM/9/004	34,000	28,900	-	H2
	SUB-TOTAL	309,000	346,400	-	
ESTABLISHMENT OF BRACHYTHERAPY SERVICES	* DOM/6/002 a/	240,000	-	-	E2
EVALUATION OF COASTAL AQUIFERS	* DOM/8/007 a/	38,900	39,800	-	F2
	SUB-TOTAL	278,900	39,800	-	

21. ECUADOR

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
DIAGNOSIS AND MONITORING OF ENVIRONMENTAL POLLUTION	* ECU/2/009	69,380	46,350	30,700	G5
USE OF IMMUNOASSAY TECHNIQUES IN ANIMAL DIAGNOSIS	ECU/5/017	18,400	-	-	D3
EFFICIENCY IN THE USE OF WATER AND FERTILIZER	ECU/5/018	19,400	-	-	D1
FATE OF FUNGICIDES IN FOOD AND ENVIRONMENT	* ECU/5/019	81,400	69,900	-	D5

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
ESTABLISHMENT OF A BIOLOGICAL DOSIMETRY LABORATORY	• ECU/9/012	64,200	70,800	40,800	E3
	SUB-TOTAL	252,780	187,050	71,500	
ENVIRONMENTAL IMPACT OF HYDROCARBON EXTRACTION IN CUYABENO	• ECU/8/017 a/	100,100	70,150	-	G5

22. EGYPT

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
UTILIZATION OF A CYCLOTRON FACILITY	• EGY/0/013	68,700	394,700	212,600	G4
UPGRADING OF RESEARCH REACTOR UTILIZATION	EGY/1/022	72,800	-	-	G4
PRODUCTION OF RADIOISOTOPES (PHASE III)	• EGY/2/005	63,000	43,900	-	G5
MANUFACTURE OF A SIMPLE COBALT TELETHERAPY MACHINE	EGY/4/035	42,800	-	-	E2
DESIGN AND DEVELOPMENT OF NUCLEAR INSTRUMENTATION	• EGY/4/038	-	56,000	44,100	G2
FOOD IRRADIATION PILOT PLANT	• EGY/5/023	22,800	24,000		D6
NUCLEAR TECHNIQUES IN DESERT FARMING	• EGY/5/024	134,900	78,000	32,000	D1
IMPROVING RADIOTHERAPY AND NUCLEAR MEDICINE TRAINING	• EGY/6/006	78,780	8,400	-	E1
RESEARCH REACTOR SAFETY ANALYSIS REPORTS REVIEW & ASSESSMENT	• EGY/9/032	84,300	57,300	-	I4
PERFORMANCE & SAFETY ASSESSMENT OF WASTE DISPOSAL FACILITIES	• EGY/9/034	31,400	16,000	22,600	C4
	SUB-TOTAL	599,480	678,300	311,300	
ESTABLISHMENT OF A NUCLEAR MATERIAL SAFEGUARDS LABORATORY	• EGY/0/014 a/	125,800	80,500	-	J2
DIAGNOSIS AND CONTROL OF ANIMAL DISEASES	• EGY/5/022 a/	32,500	28,550	29,750	D3
ESTABLISHMENT OF A CARBON-14 AND TRITIUM LABORATORY	EGY/8/009 a/	91,800	61,650	45,000	F2
PERSONNEL DOSIMETRY, REGULATIONS, LICENSING AND INSPECTION	• EGY/9/031 a/	37,800	19,800	-	H1
ATMOSPHERIC DISPERSION STUDIES	• EGY/9/033 a/	57,400	66,750	-	H3
	SUB-TOTAL	345,300	257,250	74,750	

23. EL SALVADOR

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
UPGRADING NUCLEAR APPLICATIONS LABORATORY	• ELS/4/005	88,820	128,000	-	G2
NUCLEAR AND RELATED TECHNIQUES IN ANIMAL SCIENCE	ELS/5/006	31,400	-	-	D3

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
ISOTOPE HYDROLOGY AND GEOCHEMISTRY IN GEOTHERMAL FIELDS (MP)	* ELS/8/005	51,600	45,000	-	F2
NATIONAL RADIATION PROTECTION SYSTEM	ELS/9/007	72,800	-	-	H1
	SUB-TOTAL	244,620	173,000	-	
ISOTOPE HYDROLOGY IN GEOTHERMAL FIELDS	ELS/8/004 a/	292,600	-	-	F2
24. ESTONIA					
RADIATION PROTECTION AND WASTE MANAGEMENT SERVICES UPGRADING	EST/9/002	53,700	25,450	-	H0
25. ETHIOPIA					
TEACHING APPLIED NUCLEAR PHYSICS	ETH/1/002	74,200	-	-	G1
ANIMAL SCIENCE (PHASE II)	ETH/5/009	16,400	-	-	D3
DIAGNOSIS AND MONITORING OF RINDERPEST AND TRYPANOSOMIASIS	* ETH/5/010	20,000	40,700	40,200	D3
PRODUCTION OF RIA REAGENTS AND RADIOPHARMACEUTICAL KITS	* ETH/6/006	81,300	52,350	-	E1
UPGRADING RADIATION THERAPY FACILITIES	* ETH/6/007	-	180,900	82,400	E2
USE OF ISOTOPES IN ASSESSING MICRONUTRIENT DEFICIENCIES	* ETH/7/003	154,000	92,900	39,800	E4
	SUB-TOTAL	345,900	366,850	162,400	
IMPROVEMENT OF TEF THROUGH MUTATION BREEDING	* ETH/5/011 a/	158,300	81,200	59,150	D2
26. GHANA					
UTILIZATION OF RESEARCH REACTOR	* GHA/4/010	92,800	96,000	-	G4
NUCLEAR TECHNIQUES IN RUMINANT PRODUCTIVITY STUDIES	GHA/5/013	16,400	-	-	D3
DIAGNOSIS AND CONTROL OF DISEASES IN LIVESTOCK	GHA/5/018	16,400	-	-	D3
PILOT SCALE STUDIES IN FOOD IRRADIATION	GHA/5/022	21,400	-	-	D6
MUTATION BREEDING	GHA/5/023	13,400	-	-	D2
IMPROVEMENT OF STAPLE FOOD CROPS THROUGH MUTATION BREEDING	* GHA/5/025	-	32,000	28,400	D2

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
NATIONAL RADIOTHERAPY AND NUCLEAR MEDICINE NETWORK **(MP)**	GHA/6/009	198,000	331,200	118,800	E2
	SUB-TOTAL	358,400	459,200	147,200	
NITROGEN FIXATION THROUGH RHIZOBIUM INNOCULATION	* GHA/5/024 g/	62,600	38,200	60,550	D1
NATIONAL RADIOTHERAPY AND NUCLEAR MEDICINE NETWORK **(MP)**	GHA/6/009 g/	577,800	802,800	1,245,750	E2
USE OF ISOTOPES IN ASSESSING MICRONUTRIENT DEFICIENCIES	* GHA/7/002 g/	116,000	67,300	26,975	E4
	SUB-TOTAL	756,400	908,300	1,333,275	
27. GREECE					
NUCLEAR TECHNIQUES IN ANALYTICAL CHEMISTRY	GRE/2/021	45,700	66,000	-	G5
ADVANCED NUCLEAR ANALYTICAL TECHNIQUES	GRE/2/024	31,300	25,000	-	G4
UPGRADING A NUCLEAR ANALYTICAL LABORATORY	* GRE/2/025	84,960	28,600	-	G2
GEOTHERMAL EXPLORATION OF SOUSSAKI, METHANA AND AEGHINA	* GRE/8/010	-	41,175	26,200	F2
	SUB-TOTAL	161,960	160,775	26,200	
PRODUCTION OF THERAPEUTIC RADIOPHARMACEUTICALS	* GRE/2/026 g/	76,100	-	-	G5
UPGRADING OF WHOLE BODY COUNTER	GRE/9/017 g/	91,000	39,100	-	E4
	SUB-TOTAL	167,100	39,100	-	
28. GUATEMALA					
RADIOACTIVITY AND CONTAMINATION OF THE MARINE ENVIRONMENT	* GUA/2/005	71,200	63,900	-	C4
PLANT NUTRIENT MANAGEMENT IN TRADITIONAL CROPS	* GUA/5/011	56,600	72,700	12,600	D1
MUTATIONS AND BIOTECHNOLOGY FOR CROP IMPROVEMENT	* GUA/5/012	61,360	45,150	-	D2
NUCLEAR MEDICINE NETWORK	GUA/6/011	46,400	-	-	E1

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
RADIATION PROTECTION IN WASTE HANDLING AND DISPOSAL	• GUA/9/004	60,300	49,800	-	C4
	SUB-TOTAL	295,860	231,550	12,600	
GENETIC SEXING TO CONTROL THE MEDFLY	• GUA/5/013 a/	87,600	73,700	-	D4
29. HUNGARY					
COLD NEUTRON SOURCE FOR THE BUDAPEST RESEARCH REACTOR	• HUN/4/012	90,800	149,200	-	G4
STRENGTHENING TRAINING FOR OPERATIONAL SAFETY AT PAKS NPP **(MP)**	HUN/9/019	216,200	218,200	95,400	I3
	SUB-TOTAL	307,000	367,400	95,400	
IMROVEMENT OF CYCLOTRON PARAMETERS	• HUN/4/013 a/	116,600	106,900	-	G4
STRENGTHENING TRAINING FOR OPERATIONAL SAFETY AT PAKS NPP **(MP)**	HUN/9/019 a/	75,600	79,200	-	I3
	SUB-TOTAL	192,200	186,100	-	
30. INDONESIA					
ENERGY ECONOMIC CALCULATIONS WITH NUCLEAR OPTION (PHASE II)	INS/0/012	34,200	-	-	A1
MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	• INS/0/014	210,600	255,000	-	S3
PRODUCTION OF LABELLED ISOTOPES	INS/2/011	37,800	-	-	G5
INSTRUMENTAL CHEMICAL ANALYSIS	INS/2/013	81,400	-	-	G5
URANIUM EXPLORATION AND DEVELOPMENT STUDY	• INS/3/011	85,400	85,425	-	B1
SUPPORT FOR THE FIRST NUCLEAR POWER PLANT	INS/4/028	57,000	80,700	84,600	A1
EFFECTIVE USE OF FERTILIZERS IN RICE CULTIVATION	• INS/5/024	132,400	64,700	56,000	D1
RADIATION STERILIZATION OF HUMAN TISSUE GRAFTS	• INS/7/003	98,780	55,800	-	E2
NUCLEAR POWER PLANT SITING	INS/9/012	57,000	48,000	-	I2
ENVIRONMENTAL MONITORING SYSTEM DEVELOPMENT	INS/9/020	-	90,700	46,800	H3
	SUB-TOTAL	794,580	680,325	187,400	

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
FEASIBILITY STUDY ON FOOD IRRADIATION	* INS/5/025 g/	48,300	50,550	-	D6
31. ISLAMIC REPUBLIC OF IRAN					
DEVELOPMENT OF RIA KITS	IRA/2/005	21,400	-	-	G5
TARGET SELECTION FOR URANIUM PROSPECTION	* IRA/3/004	47,400	46,350	-	B1
ACCELERATOR-BASED ANALYTICAL TECHNIQUES	IRA/4/020	49,000	65,050	-	G4
CYCLOTRON PRODUCTION OF RADIONUCLIDES	* IRA/4/023	248,300	207,300	118,900	G5
SERO-MONITORING OF RINDERPEST USING NUCLEAR TECHNIQUES	IRA/5/009	11,400	12,000	-	D3
RADIATION TREATMENT FOR PEST AND PLANT DISEASE CONTROL	* IRA/5/010	26,100	30,900	-	D4
NUCLEAR TECHNIQUES IN CEREAL PRODUCTION	* IRA/5/011	56,400	32,700	-	D2
STUDIES OF ISOTOPES IN KARSTIC AQUIFERS	* IRA/8/011	24,600	25,800	-	F2
SEALED SOURCES AND NUCLEONIC CONTROL SYSTEMS IN INDUSTRY	* IRA/8/012	78,000	85,800	34,200	F1
STRENGTHENING RADIATION PROTECTION	IRA/9/012	89,400	63,900	-	H0
INFRASTRUCTURE FOR IMPLEMENTATION OF NUCLEAR POWER PROGRAMME	* IRA/9/015	113,400	143,100	147,870	A1
	SUB-TOTAL	765,400	712,900	300,970	
SECONDARY STANDARDS DOSIMETRY LABORATORY UPGRADING	* IRA/1/008 g/	-	83,350	41,150	E3
32. IRAQ					
MUTATION TECHNIQUES FOR CROP PROTECTION	IRQ/5/007	69,200	85,400	65,800	D2
IMPROVEMENT OF SOIL FERTILITY	* IRQ/5/012	117,300	130,000	-	D1
REHABILITATION OF NUCLEAR MEDICINE SERVICES	* IRQ/6/008	81,300	102,350	-	E1
REHABILITATION OF RADIOTHERAPY SERVICES FOR CANCER	* IRQ/6/009	42,000	122,350	70,800	E2
	SUB-TOTAL	309,800	440,100	136,600	
IMMUNOASSAY TECHNIQUE FOR RINDERPEST DIAGNOSIS	IRQ/5/008 g/	85,000	31,400	33,350	D3
33. JORDAN					
NEUTRON ACTIVATION ANALYSIS AND TRAINING LABORATORY	* JOR/2/003	69,400	76,700	-	G5

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
PLANT MUTATION BREEDING OF DROUGHT RESISTANT LENTILS	• JOR/5/006	57,600	49,350	-	D2
COBALT-60 IRRADIATION FACILITY (PHASE II)	• JOR/7/002	147,700	184,350	725,800	D6
RADIOLOGICAL EMERGENCY RESPONSE TRAINING	• JOR/9/006	72,600	68,950	-	H3
DIAGNOSTIC RADIOLOGY RADIATION PROTECTION	• JOR/9/007	82,660	83,500	-	H6
	SUB-TOTAL	429,960	462,850	725,800	
TRAINING IN REACTOR PHYSICS APPLICATIONS	• JOR/4/003 g/	32,600	13,200	-	G1

34. KAZAKHSTAN

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
RADIATION PROTECTION AND WASTE MANAGEMENT SERVICES UPGRADING	KAZ/9/003	72,300	67,800	-	H0
SAFETY UPGRADING OF WWR-K RESEARCH REACTOR	• KAZ/9/004	67,600	86,350	18,900	I4
	SUB-TOTAL	139,900	154,150	18,900	
NEUTRON ACTIVATION ANALYSIS LABORATORY	• KAZ/2/002 g/	71,500	80,500	65,550	G5
TECHNOLOGY FOR HEAT AND RADIATION RESISTANT MATERIALS	• KAZ/4/002 g/	91,500	93,700	55,550	A3
	SUB-TOTAL	163,000	174,200	121,100	

35. KENYA

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
SUPPORT TO NUCLEAR TECHNOLOGY	• KEN/0/007	83,000	89,000	-	S3
IMPROVEMENT OF PRODUCTIVITY OF DAIRY CATTLE	KEN/5/017	18,400	19,000	-	D3
DIAGNOSIS AND CONTROL OF ANIMAL DISEASES	• KEN/5/019	29,900	30,350	27,600	D3
CONTROL OF TSETSE FLY AND TRYPANOSOMIASIS IN LAMBWE VALLEY	• KEN/5/020	74,800	75,500	-	D4
	SUB-TOTAL	206,100	213,850	27,600	
CONTROL OF TSETSE FLY AND TRYPANOSOMIASIS IN LAMBWE VALLEY	• KEN/5/020 g/	220,000	-	-	D4

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
NON-DESTRUCTIVE TESTING TECHNIQUES	* KEN/8/006 a/	58,600	74,050	-	F1
	SUB-TOTAL	278,600	74,050	-	
36. REPUBLIC OF KOREA					
MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	* ROK/0/008	138,600	186,600	-	S3
MATERIALS CHARACTERIZATION WITH RESEARCH REACTOR	* ROK/1/013	62,400	77,400	-	G4
CYCLOTRON UTILIZATION FOR MEDICAL PURPOSES	ROK/4/025	33,900	22,350	-	G5
IMPACT OF AGROCHEMICALS IN GREENHOUSE FARMING	* ROK/5/030	46,200	54,700	55,100	D5
STRENGTHENING NATIONAL SAFETY STANDARDS	* ROK/9/037	66,600	89,400	-	I1
MONITORING ENVIRONMENTAL RADIATION (PHASE II)	* ROK/9/038	37,080	32,700	-	H3
DOSIMETRY IN MEDICINE AND RADIOLOGICAL HEALTH	* ROK/9/039	42,600	68,250	-	H2
	SUB-TOTAL	427,380	531,400	55,100	
37. LATVIA					
RADIATION PROTECTION AND WASTE MANAGEMENT SERVICES UPGRADING	LAT/9/002	53,700	25,450	-	H0
38. LEBANON					
NATIONAL INIS CENTRE	* LEB/0/004	39,000	42,950	-	S5
ELEMENTAL ANALYSIS AND APPLICATIONS	* LEB/2/004	41,300	62,950	-	G5
SIT TO CONTROL FRUIT TREE PESTS	* LEB/5/013	91,000	44,350	-	D4
ISOTOPE STUDY OF UNDERGROUND WATER RESOURCES	* LEB/8/003	56,400	43,950	-	F2
RADIATION DOSIMETRY	* LEB/9/003	55,600	37,950	-	H2
	SUB-TOTAL	283,300	232,150	-	
ELISA TECHNIQUE FOR MONITORING LIVESTOCK DISEASES	* LEB/5/012 a/	57,500	53,550	-	D3

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
39. LIBYAN ARAB JAMAHIRIYA					
DETERMINING IMPURITIES IN RADIOPHARMACEUTICALS	* LIB/2/002	37,300	53,700	-	G5
PRODUCTION OF RADIOPHARMACEUTICALS	LIB/4/008	57,600	-	-	G5
BIOLOGOICAL NITROGEN FIXATION	LIB/5/008	34,600	-	-	D1
IMPROVEMENT OF LIVESTOCK PRODUCTIVITY THROUGH RIA	* LIB/5/009	71,200	22,000	17,600	D3
NON-DESTRUCTIVE TESTING	LIB/8/003	42,600	64,700	-	F1
	SUB-TOTAL	243,300	140,400	17,600	
40. LITHUANIA					
RADIATION PROTECTION AND WASTE MANAGEMENT SERVICES UPGRADING	LIT/9/002	53,700	25,450	-	H0
41. MADAGASCAR					
IMPROVEMENT OF NUCLEAR ANALYTICAL TECHNIQUES	* MAG/2/002	84,860	67,950	-	G5
IMPROVEMENT OF ANIMAL PRODUCTIVITY AND HEALTH	MAG/5/006	21,400	-	-	D3
STRENGTHENING RADIATION SAFETY SERVICE	* MAG/9/003	82,600	64,350	-	H7
	SUB-TOTAL	188,860	132,300	-	
42. MALAYSIA					
MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	MAL/0/010	116,700	139,500	-	S3
PUSPATI TRIGA REACTOR: POWER UPGRADING PROJECT	MAL/4/007	22,800	-	-	G4
MUTATION BREEDING AND BIOTECHNOLOGY FOR PLANT IMPROVEMENT	* MAL/5/021	75,200	87,900	-	D2
BEHAVIOUR AND FATE OF PESTICIDES IN VEGETABLES	* MAL/5/022	46,400	50,200	-	D5
UPGRADING NUCLEAR MEDICINE SERVICES	MAL/6/013	31,200	32,700	-	E1
MONOCLONAL ANTIBODY PRODUCTION AND RIA DEVELOPMENT	* MAL/6/015	45,600	39,200	-	E2
STERILIZATION OF TISSUE GRAFTS	MAL/7/003	27,600	39,300	-	E2
MARINE CONTAMINANTS AND SEDIMENT TRANSPORT	MAL/7/004	21,300	44,700	-	C4

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
UTILIZATION OF ELECTRON BEAM MACHINE	MAL/8/012	92,600	44,700	-	F1
ENVIRONMENTAL IMPACT ASSESSMENT ON DUMPING GROUNDS	* MAL/8/014	24,000	22,350	-	F2
RADIATION PROTECTION PROGRAMME (PHASE II)	MAL/9/011	11,400	-	-	H1
	SUB-TOTAL	514,800	500,550	-	
43. MALI					
IMPROVEMENT OF ANIMAL DISEASE DIAGNOSIS (PHASE II)	MLI/5/013	30,000	25,000	32,600	D3
FIELD PERFORMANCE OF SELECTED MUTANTS OF SORGHUM AND RICE **(MP)**	* MLI/5/014	162,600	154,700	134,200	D2
NUCLEAR MEDICINE (PHASE II)	MLI/6/004	41,400	32,000	-	E1
SURFACE WATER MANAGEMENT	MLI/8/004	72,400	58,000	-	F2
	SUB-TOTAL	306,400	269,700	166,800	
44. MAURITIUS					
IMPROVEMENT OF ANIMAL PRODUCTIVITY	MAR/5/007	21,400	-	-	D3
NITROGEN FERTILIZER USE IN SUGAR CANE	MAR/5/008	11,400	-	-	D1
CONTROL OF DIAMONDBACK MOTH BY STERILE INSECT TECHNIQUE	* MAR/5/009	85,500	107,700	97,800	D4
IMPROVEMENT OF RADIOIMMUNOASSAY SERVICE AT VICTORIA HOSPITAL	* MAR/6/003	35,100	18,800	-	E1
USE OF ISOTOPES IN INVESTIGATING MICRONUTRIENT DEFICIENCIES	* MAR/7/002	-	41,350	75,500	E4
RADIATION PROTECTION	MAR/9/002	21,400	-	-	H7
	SUB-TOTAL	174,800	167,850	173,300	
45. MEXICO					
MANPOWER DEVELOPMENT	MEX/0/010	70,800	195,900	-	S3
REPAIR OF RADIATION DETECTORS	MEX/4/045	47,800	-	-	G2
NUTRITION/REPRODUCTION INTERACTION IN ZEBU	MEX/5/016	21,400	-	-	D3

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
USE OF NUCLEAR TECHNIQUES IN AGRICULTURE	MEX/5/019	36,400	-	-	D1
IMMUNOASSAY METHODS FOR THE DIAGNOSIS OF ANIMAL DISEASES	MEX/5/020	21,400	-	-	D3
INCREASING GENETIC VARIABILITY OF ENDANGERED PLANT SPECIES	• MEX/5/023	66,900	93,400	-	D2
REPRODUCTION AND NUTRITION PROGRAMMES IN CATTLE BREEDING	• MEX/5/024	56,800	66,350	33,400	D3
QUALITY CONTROL PROGRAMME FOR RADIODIAGNOSIS SERVICES	• MEX/6/004	72,400	74,700	-	E3
RADIOACTIVE PROBES FOR DETECTION OF PARASITES	MEX/7/006	53,000	-	-	E4
STUDIES FOR GEOTHERMAL BRINES REINJECTION	• MEX/8/020	76,900	68,200	-	F2
MANAGEMENT OF WATER RESOURCES IN THE LERMA-CHAPALA BASIN	• MEX/8/021	144,200	70,150	-	F2
	SUB-TOTAL	668,000	568,700	33,400	
NATIONAL PROGRAMME OF TRAINING IN MEDICAL PHYSICS **(MP)**	• MEX/6/005 a/	198,200	240,000	-	E3

46. MONGOLIA

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	• MON/0/006	39,700	61,750	-	S3
DEVELOPMENT OF NUCLEAR ANALYTICAL TECHNIQUES	• MON/2/007	98,900	113,300	107,600	G5
NUCLEAR TECHNIQUES IN AGRICULTURE	MON/5/006	42,600	-	-	D0
IMPROVING LIVESTOCK PRODUCTIVITY AND HEALTH	• MON/5/007	44,600	45,800	-	D3
EXTENSION SERVICES FOR NEW VARIETIES OF WHEAT	• MON/5/008	46,400	75,900	-	D2
UPGRADING NUCLEAR MEDICINE SERVICES	• MON/6/005	46,300	57,700	-	E1
UPGRADING RADIATION THERAPY SERVICES **(MP)**	• MON/6/006	137,500	222,700	-	E2
STRENGTHENING OF RADIATION PROTECTION	MON/9/004	66,000	62,800	-	H0
	SUB-TOTAL	522,000	639,950	107,600	
STRENGTHENING NUCLEAR INSTRUMENTATION AND MAINTENANCE	• MON/4/003 a/	41,200	36,950	-	G2
UPGRADING NUCLEAR MEDICINE SERVICES	• MON/6/005 a/	105,800	67,000	-	E1
UPGRADING OF RADIOIMMUNOASSAY FACILITIES	• MON/6/007 a/	57,400	58,900	-	E1
	SUB-TOTAL	204,400	162,850	-	

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC

47. MOROCCO

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
LOCAL PREPARATION OF RIA KITS	* MOR/2/002	-	82,000	48,400	G5
SIMULATION OF A NUCLEAR REACTOR OPERATION	MOR/4/009	31,400	-	-	G2
MAINTENANCE OF RESEARCH REACTOR INSTRUMENTATION	* MOR/4/011	19,800	47,000	42,600	G2
MUTATION BREEDING	MOR/5/016	51,400	64,000	-	D2
ASSESSMENT OF NITROGEN EFFICIENCY USE IN SUGAR BEET	MOR/5/019	31,400	27,000	-	D1
EPIDEMIOLOGICAL MONITORING OF VIRAL DISEASES	MOR/5/021	45,700	26,000	-	D3
IDENTIFYING N-FIXING TREES IN LOW PHOSPHATE SOILS	* MOR/5/022	51,400	62,000	105,200	D1
PESTICIDE RESIDUES IN FOOD AND ENVIRONMENT	* MOR/5/023	71,400	74,000	-	D5
DOSE PLANNING FOR CANCER TREATMENT	* MOR/6/011	71,400	42,350	42,600	E2
RADIATION PROTECTION (PHASE II)	MOR/9/009	111,400	82,000	20,000	H7
RESEARCH REACTOR SAFETY AND NPP SITE ANALYSIS	MOR/9/010	11,400	-	-	I6
	SUB-TOTAL	496,700	506,350	258,800	
ESTABLISHMENT OF A NUCLEAR ANALYTICAL LABORATORY	* MOR/2/003 a/	67,500	63,550	33,950	G5
RADIOISOTOPE PRODUCTION AND LABELLING	MOR/4/010 a/	105,200	-	-	G5
STUDY ON FOOD IRRADIATION	MOR/5/018 a/	72,600	46,400	-	D6
NUCLEAR DATING TECHNIQUES	MOR/8/005 a/	75,900	23,200	-	F2
ESTABLISHMENT OF A NON-DESTRUCTIVE TESTING LABORATORY	MOR/8/006 a/	42,600	-	-	F1
NUCLEAR GAUGING OF HARBOUR SEDIMENTATION	* MOR/8/007 a/	118,400	118,550	43,950	F2
IMPROVING RADIATION SAFETY OF CNESTEN	* MOR/9/011 a/	-	143,900	178,700	C5
	SUB-TOTAL	482,200	395,600	256,600	

48. MYANMAR

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	MYA/0/004	82,400	120,500	-	S3
A NATIONAL CENTRE FOR NUCLEAR INSTRUMENT MAINTENANCE	* MYA/4/006	41,400	71,660	44,200	G2
ISOTOPES AND NUCLEAR TECHNIQUES IN CROP PRODUCTION	MYA/5/006	21,400	-	-	D1
IMPROVING CATTLE FERTILITY AND DISEASE DIAGNOSIS	MYA/5/007	61,200	64,300	-	D3
MUTATION BREEDING IN GRAIN LEGUMES	* MYA/5/008	27,700	37,700	26,600	D2

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
NUCLEAR TECHNIQUES IN DIAGNOSIS OF TUBERCULOSIS	* MYA/6/018	41,300	32,350	-	E1
RIA REAGENTS FOR NEONATAL HYPOTHYROID SCREENING	* MYA/6/019	51,200	52,700	-	E1
SEDIMENTATION STUDY AT INLE LAKE	MYA/8/003	23,800	-	-	F2
NON-DESTRUCTIVE TESTING LABORATORY	MYA/8/004	59,600	60,800	-	F1
ESTABLISHMENT OF RADIATION PROTECTION INFRASTRUCTURE	* MYA/9/004	41,400	62,700	44,200	H1
	SUB-TOTAL	451,400	502,710	115,000	
49. NAMIBIA					
ESTABLISHING A URANIUM DATA BANK	* NAM/3/002	51,400	42,350	-	B1
DIAGNOSIS OF ANIMAL DISEASES	NAM/5/002	21,400	-	-	D3
EVALUATION OF NUTRITIONAL VALUE OF NAMIBIAN RANGELAND	* NAM/5/003	61,300	37,350	-	D3
ESTABLISHMENT OF A CENTRAL RADIOTHERAPY UNIT	* NAM/6/003	51,000	53,400	-	E2
UPGRADING OF RADIOIMMUNOASSAY LABORATORY	* NAM/6/004	59,600	27,000	-	E1
RADIATION PROTECTION (PHASE II)	* NAM/9/003	11,400	82,000	-	H3
	SUB-TOTAL	256,100	242,100	-	
FERTILIZER AND WATER MANAGEMENT	* NAM/5/004 a/	26,100	73,550	43,950	D1
ESTABLISHMENT OF A CENTRAL RADIOTHERAPY UNIT	* NAM/6/003 a/	777,100	282,700	351,975	E2
	SUB-TOTAL	803,200	356,250	395,925	
50. NICARAGUA					
IMPROVING SOIL MANAGEMENT PRACTICES TO INCREASE CROP YIELD	* NIC/5/005	61,300	75,800	30,800	D1
STUDY OF THE WESTERN AQUIFER	* NIC/8/009	32,600	49,700	-	F2
EVALUATION OF ANTHROPOGENIC IMPACT ON LAKE XOLOTLAN	* NIC/8/010	61,300	74,100	-	F2
NATIONAL RADIATION PROTECTION SYSTEM	NIC/9/003	84,200	-	-	H1
	SUB-TOTAL	239,400	199,600	30,800	

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
51. NIGER					
IMPROVING ANIMAL DISEASE DIAGNOSIS	• NER/5/009	15,700	26,350	-	D3
ESTABLISHMENT OF A NUCLEAR MEDICINE FACILITY (PHASE I, RIA)	• NER/6/002	86,900	89,400	-	E1
HYDROGEOCHEMICAL AND ISOTOPIC STUDY OF MULTILAYER AQUIFER	NER/8/006	21,400	-	-	F2
NATIONAL RADIATION PROTECTION PROGRAMME	NER/9/007	21,400	-	-	H7
	SUB-TOTAL	145,400	115,750	-	
NUTRIENTS AND WATER IN MILLET/LEGUME SYSTEMS	• NER/5/010 a/	85,100	93,900	-	D1
52. NIGERIA					
ESTABLISHING A REACTOR FACILITY	• NIR/1/009	41,100	405,050	1,131,600	G4
NUCLEAR INSTRUMENTATION REPAIR AND MAINTENANCE LABORATORY	• NIR/4/004	97,600	32,000	36,300	G2
RADIATION MUTATION AND TISSUE CULTURE TECHNIQUES	NIR/5/025	52,600	-	-	D2
ORGANIC MATTER AND NITROGEN DYNAMICS IN AGROFORESTRY SYSTEMS	NIR/5/026	64,600	-	-	D1
ESTABLISHING A CALIBRATION LABORATORY	• NIR/9/007	122,700	62,350	-	H7
INFRASTRUCTURE FOR LOW LEVEL RADIOACTIVE WASTE MANAGEMENT	• NIR/9/008	11,400	107,700	48,400	C5
	SUB-TOTAL	390,000	607,100	1,216,300	
ESTABLISHING A REACTOR FACILITY	• NIR/1/009 a/	350,000	-	-	G4
ISOTOPE-AIDED STUDIES OF THE SOKOTO-RIMA HYDROLOGICAL BASIN	• NIR/8/004 a/	103,800	51,700	-	F2
	SUB-TOTAL	453,800	51,700	-	
53. PAKISTAN					
ENERGY AND NUCLEAR POWER PLANNING STUDY	• PAK/0/006	36,000	-	-	A1
MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	• PAK/0/007	177,600	220,500	-	S3
UPGRADING OF TRAINING FACILITIES OF KNPTC	PAK/4/038	11,400	52,000	-	A2

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
DEVELOPMENT OF A SIMULATOR FOR A NUCLEAR POWER PLANT	• PAK/4/039	61,300	84,700	65,200	I2
IMPACT OF PESTICIDES ON THE ECOSYSTEM	PAK/5/029	21,300	-	-	D5
CONTROL OF PINK BOLLWORM TO IMPROVE COTTON PRODUCTION	• PAK/5/032	91,700	101,900	-	D4
DEVELOPMENT OF LEAF CURL TOLERANT VARIETIES OF COTTON	• PAK/5/033	60,900	72,700	-	D2
GENETIC IMPROVEMENT OF OILSEED CROPS	• PAK/5/034	44,180	30,350	-	D2
RADIATION PROCESSING OF CABLE INSULATION MATERIALS(PHASE II)	• PAK/8/010	47,700	48,900	-	F1
SAFE OPERATION OF THE KARACHI NUCLEAR POWER PLANT	PAK/9/010	54,600	51,300	-	I3
SAFETY SUPPORT TO CHASNUPP	• PAK/9/018	60,300	63,300	204,360	I0
PSA FOR CHASMA NUCLEAR POWER PROJECT (PHASE II)	• PAK/9/019	54,000	56,700	-	I7
	SUB-TOTAL	720,980	782,350	269,560	
SECONDARY STANDARDS FOR NEUTRON AND ENVIRONMENTAL DOSIMETRY	• PAK/1/023 a/	62,500	96,950	-	E3
54. PANAMA					
BOUND PESTICIDE RESIDUES: IMPACT IN FOOD AND ENVIRONMENT	PAN/5/008	31,400	-	-	D5
IMMUNOASSAYS IN ANIMAL HEALTH	PAN/5/009	18,400	19,000	-	D3
NUTRITION AND PRODUCTION STUDIES IN CATTLE	• PAN/5/011	67,700	55,700	-	D3
ENVIRONMENTAL MONITORING	PAN/9/005	41,400	-	-	H3
QUALITY CONTROL IN MAMMOGRAPHY	• PAN/9/006	46,600	37,000	-	H3
DEVELOPMENT OF RADIATION PROTECTION LEGISLATION	• PAN/9/007	24,700	67,450	-	H1
	SUB-TOTAL	230,200	179,150	-	
55. PARAGUAY					
QUALITY CONTROL OF RADIOPHARMACEUTICALS	• PAR/2/003	45,000	25,350	-	G5
IMMUNOASSAY METHODS IN ANIMAL DISEASES	PAR/5/005	11,400	-	-	D3
FEED SUPPLEMENTATION FOR IMPROVING CATTLE PRODUCTIVITY	• PAR/5/006	64,700	55,350	-	D3
SAFETY SERVICES FOR RADIATION SOURCES	• PAR/9/004	51,100	78,400	-	H1
	SUB-TOTAL	172,200	159,100	-	

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
56. PERU					
MEDICAL PHYSICS TRAINING	• PER/0/020	28,500	66,000	-	E2
RESEARCH REACTOR MODERNIZATION	• PER/4/017	58,600	55,850	-	G4
IMMUNOASSAY IN ANIMAL DISEASE STUDIES	PER/5/020	21,400	-	-	D3
NUCLEAR TECHNIQUES FOR IMPROVING ANIMAL PRODUCTIVITY	• PER/5/022	11,400	68,900	101,360	D3
GAMMA STERILIZATION OF BIOLOGICAL TISSUES	• PER/7/002	57,950	34,625	-	E2
NUCLEAR TECHNIQUES TO IMPROVE CHILD NUTRITION **(MP)**	• PER/7/003	281,900	280,450	99,100	E4
OPERATION OF MULTI-PURPOSE IRRADIATION PLANT	• PER/8/009	-	101,350	28,800	F1
ISOTOPE HYDROLOGY IN SOUTHERN PERU	• PER/8/010	96,900	68,350	-	F2
	SUB-TOTAL	556,650	675,525	229,260	
NUCLEAR TECHNIQUES IN MATERIALS ANALYSIS	PER/1/012 a/	305,100	23,550	-	G4
NUCLEAR TECHNIQUES FOR ENVIRONMENTAL CONTROL	• PER/9/020 a/	82,100	120,500	-	E4
	SUB-TOTAL	387,200	144,050	-	
57. PHILIPPINES					
MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	• PHI/0/010	112,000	170,200	-	S3
GAMMA-RAY SPECTROMETRIC SURVEY	PHI/3/008	77,800	-	-	B1
FEASIBILITY STUDY OF INTEGRATED CONTROL OF FRUIT FLIES	PHI/5/022	62,600	54,700	-	D4
RADIOIMMUNOASSAY FOR IMPROVING ANIMAL PRODUCTION	PHI/5/023	26,400	-	-	D3
ISOTOPE TECHNIQUES IN GEOTHERMAL HYDROLOGY	PHI/8/016	108,900	73,700	-	F2
GROUNDWATER SYSTEMS STUDIES BY ISOTOPE TECHNIQUES	PHI/8/018	21,400	-	-	F2
TRAINING CENTRE FOR NON-DESTRUCTIVE TESTING (PHASE II)	• PHI/8/019	61,300	52,350	-	F1
TLD DOSIMETRY FOR PERSONNEL DOSIMETRY SERVICES	• PHI/9/020	141,500	142,700	59,200	H2
AIR POLLUTANT CHARACTERIZATION AND SOURCE IDENTIFICATION	• PHI/9/021	67,400	18,000	-	H3
	SUB-TOTAL	679,300	511,650	59,200	

Member State and Title	Project code		1995 US$	1996 US$	Future years US$	SPC
ASSESSING PESTICIDE RESIDUES IN FOOD AND ENVIRONMENT	* PHI/5/025	g/	82,500	70,200	-	D5
UPGRADING BRACHYTHERAPY SERVICES FOR CANCER TREATMENT	* PHI/6/017	g/	186,300	76,400	-	E2
APPLICATIONS OF X-RAY ANALYSIS	PHI/8/017	g/	65,700	-	-	G1
	SUB-TOTAL		334,500	146,600	-	

58. POLAND

Member State and Title	Project code		1995 US$	1996 US$	Future years US$	SPC
ECONOMIC AND ENVIRONMENTAL IMPACT OF VARIOUS ENERGY OPTIONS	* POL/0/004		23,700	30,900	-	X0
UPGRADING PULSED NEUTRON LABORATORY FOR CALIBRATION	* POL/4/010		51,400	-	-	G4
MUTATION BREEDING AND BIOTECHNOLOGY IN AGRICULTURE	* POL/5/009		105,900	68,200	-	D2
INDUSTRIAL SCALE DEMO PLANT FOR EB PURIFICATION OF FLUE GAS **(MP)**	POL/8/014		437,100	690,000	646,300	F1
DEVELOPMENT OF NEUTRONIC ON-LINE INDUSTRIAL COAL ANALYSER	* POL/8/015		22,300	47,900	-	F1
CALIBRATION FACILITIES FOR RADIATION PROTECTION MEASUREMENTS	* POL/9/019		194,000	152,350	-	H2
	SUB-TOTAL		834,400	989,350	646,300	
QUALITY CONTROL OF RADIOPHARMACEUTICALS	* POL/2/013	g/	60,000	30,000	-	G5
ELECTRON ACCELERATOR FOR ECOLOGICAL PURPOSES	POL/8/008	g/	75,900	131,650	43,600	F1
ELECTRON BEAM TECHNOLOGY FOR FLUE GAS PURIFICATION PHASE III	POL/8/013	g/	239,900	239,200	-	F1
INDUSTRIAL SCALE DEMO PLANT FOR EB PURIFICATION OF FLUE GAS **(MP)**	POL/8/014	g/	1,000,000	1,600,000	2,600,000	F1
	SUB-TOTAL		1,375,800	2,000,850	2,643,600	

59. PORTUGAL

Member State and Title	Project code		1995 US$	1996 US$	Future years US$	SPC
NEUTRON SCATTERING SPECTROMETER	* POR/1/008		22,100	22,000	-	G2
MEDITERRANEAN FRUIT FLY PROGRAMME ON MADEIRA	* POR/5/005		118,900	112,000	132,000	D4
	SUB-TOTAL		141,000	134,000	132,000	
ENVIRONMENTAL MONITORING AND URANIUM EXPLORATION	POR/3/011	g/	39,400	29,500	-	E1

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
60. ROMANIA					
COMPUTER-AIDED DESIGN FOR CERNAVODA NPP ENGINEERING	ROM/4/015	31,200	-	-	A3
CERNAVODA NUCLEAR POWER PLANT PROJECT MANAGEMENT	ROM/4/017	11,400	44,700	-	A1
SUNFLOWER WITH IMPROVED OIL QUALITY AND DISEASE RESISTANCE	* ROM/5/007	50,900	66,700	18,300	D2
IMPROVEMENT OF GRAPE QUALITY BY IN-VITRO MUTAGENESIS	* ROM/5/008	45,100	65,900	5,000	D2
ESTABLISHING MEDICAL PHYSICS PROGRAMME AT CUZA UNIVERSITY	* ROM/6/012	114,500	136,550	-	E1
QUALITY ASSURANCE AND QUALITY CONTROL IN RADIOTHERAPY	* ROM/6/013	61,920	75,600	-	E2
MULTI-PURPOSE IRRADIATION FACILITY	ROM/8/011	22,800	162,000	162,600	F1
SEDIMENT DYNAMICS INVESTIGATION BY NUCLEAR TECHNIQUES	ROM/8/013	45,000	20,700	-	F2
WATER RESOURCE MANAGEMENT USING HIGH SENSITIVITY CHLORINE-36	* ROM/8/014	67,720	88,800	-	F2
LICENSING OF CERNAVODA NUCLEAR POWER PLANT	ROM/9/007	34,600	71,400	-	I2
UPGRADING ENVIRONMENTAL RADIOACTIVITY SURVEILLANCE LAB	ROM/9/012	129,600	164,050	-	H3
DECOMMISSIONING PLAN FOR WWER-S RESEARCH REACTOR	* ROM/9/017	95,000	84,800	-	C3
	SUB-TOTAL	709,740	981,200	185,900	
SUPPORT OF CERNAVODA TRAINING CENTRE	ROM/0/004 a/	50,000	-	-	A1
CONTROL OF EXPOSURE TO RADON, THORON AND THEIR PROGENIES	* ROM/9/018 a/	70,200	-	-	H3
	SUB-TOTAL	120,200	-	-	
61. SAUDI ARABIA					
TRAINING IN NUCLEAR SCIENCE AND ENGINEERING	* SAU/0/003	45,300	47,550	-	F1
FOOD IRRADIATION FEASIBILITY STUDY	* SAU/5/002	21,300	28,950	-	D6
QUALITY CONTROL IN RADIATION TREATMENT OF THYROID CANCER	* SAU/6/003	21,300	22,350	-	E1
STRENGTHENING ISOTOPE HYDROLOGY APPLICATIONS	* SAU/8/004	21,300	22,350	-	F2
INDUSTRIAL APPLICATIONS OF RADIOACTIVE SOURCES	* SAU/8/005	21,300	28,950	-	F1
ENVIRONMENTAL RADIOACTIVITY AND NUCLEAR TECHNIQUES	* SAU/9/003	27,600	28,950	-	H3
RADIOACTIVE WASTE MANAGEMENT AND PROCESSING PROGRAMME	* SAU/9/004	21,300	22,350	-	C1
	SUB-TOTAL	179,400	201,450	-	

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
62. SENEGAL					
IMPROVEMENT OF ZEBU PRODUCTIVITY	SEN/5/022	18,400	42,700	17,600	D3
IMPROVEMENT OF ANIMAL HEALTH AND DIAGNOSIS	* SEN/5/023	37,900	32,700	-	D3
UPGRADING NUCLEAR MEDICINE FACILITIES	* SEN/6/010	31,400	35,800	-	E1
	SUB-TOTAL	87,700	111,200	17,600	
63. SIERRA LEONE					
ANIMAL SCIENCE	SIL/5/003	31,300	-	-	D3
USE OF ISOTOPES TO INCREASE RICE PRODUCTIVITY	* SIL/5/004	25,500	85,200	86,700	D1
INCREASING GROUNDNUT YIELD THROUGH BNF AND WATER MANAGEMENT	* SIL/5/005	64,700	49,700	-	D1
USE OF ISOTOPES IN INVESTIGATING MICRONUTRIENT DEFICIENCIES	* SIL/7/002	87,600	62,350	20,000	E4
	SUB-TOTAL	209,100	197,250	106,700	
64. SLOVAK REPUBLIC					
UPGRADING NPP PERSONNEL TRAINING PROGRAMMES	* SLR/0/003	139,100	202,250	45,200	S3
STRENGTHENING THE NUCLEAR SAFETY REGULATORY BODY **(MP)**	SLR/9/005	103,200	107,700	-	I1
RADIATION PROTECTION LEGISLATION	* SLR/9/006	38,700	37,800	-	H1
ESTABLISHING PERSONNEL DOSIMETRY SERVICE	* SLR/9/008	64,700	45,450	-	H7
	SUB-TOTAL	345,700	393,200	45,200	
STRENGTHENING THE NUCLEAR SAFETY REGULATORY BODY **(MP)**	SLR/9/005 a/	95,400	99,900	-	I1
ADVANCED DIAGNOSTICS SURVEILLANCE SYSTEMS FOR WWER	* SLR/9/007 a/	75,100	115,000	20,950	I3
	SUB-TOTAL	170,500	214,900	20,950	

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
65. SLOVENIA					
BEAM TRANSPORT SYSTEM FOR A VAN DE GRAAFF ACCELERATOR	* SLO/1/003	124,300	136,900	260,000	G4
UPGRADING OF KRSKO NPP	SLO/9/002	22,800	-	-	I3
RADIOLOGICAL ACCIDENT PREPAREDNESS AND MANAGEMENT	* SLO/9/007	118,900	113,200	-	H5
	SUB-TOTAL	266,000	250,100	260,000	
ENHANCEMENT OF OPERATIONAL SAFETY AT KRSKO NPP	SLO/9/004 a/	-	66,000	-	I3
EARLY WARNING SYSTEM FOR RADIOLOGICAL EMERGENCIES	SLO/9/005 a/	184,000	130,000	-	H3
GEOCHEMICAL MAPPING OF NATURAL RADIOACTIVTY	* SLO/9/008 a/	74,600	3,450	-	C5
DESIGN AND OPERATION OF A RADON CHAMBER	* SLO/9/009 a/	112,400	115,150	25,000	H3
	SUB-TOTAL	371,000	314,600	25,000	
66. SRI LANKA					
MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	* SRL/0/005	115,300	120,250	-	S3
WORKSHOP ON DESIGN, MANAGEMENT AND EVALUATION OF TC PROJECTS	* SRL/0/006	21,400	-	-	S3
ISOTOPE TECHNIQUES FOR SUSTAINABLE INCREASED TEA PRODUCTION	SRL/5/029	30,000	17,000	-	D1
MUTATION BREEDING IN BANANAS AND PLANTAINS	* SRL/5/030	43,600	74,700	-	D2
NUCLEAR IMAGING IN MEDICAL DIAGNOSIS	* SRL/6/020	101,300	-	-	E1
RADIOIMMUNOASSAY IN DIAGNOSIS	* SRL/6/022	44,600	30,800	-	E1
RADIATION STERILIZATION OF HUMAN TISSUE FOR TRANSPLANTATION **(MP)**	SRL/7/003	72,200	29,000	51,400	E2
STRENGTHENING OF RADIATION PROTECTION (PHASE II)	* SRL/9/007	21,400	42,700	-	H1
	SUB-TOTAL	449,800	314,450	51,400	
IMMUNOASSAY IN DIAGNOSIS AND CONTROL OF POULTRY DISEASES	* SRL/5/031 a/	47,500	54,250	-	D3
IMPROVEMENT OF BRACHYTHERAPY SERVICES	* SRL/6/021 a/	501,600	76,400	-	E2
NUCLEAR TECHNIQUES IN MONITORING INDUSTRIAL POLLUTION	* SRL/9/008 a/	60,200	41,400	-	H3
	SUB-TOTAL	609,300	172,050	-	

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
67. SUDAN					
MANAGEMENT OF NUTRIENTS, WATER AND ORGANIC MATTER	* SUD/5/021	121,300	42,350	62,600	D1
INCREASING PRODUCTIVITY OF SMALLHOLDER DAIRY CATTLE	* SUD/5/022	-	26,350	88,700	D3
IMPROVING COTTON AND SUGAR CANE CROPS (PHASE II)	* SUD/5/023	47,560	38,150	29,540	D2
UPGRADING NUCLEAR MEDICINE FACILITY WITH GAMMA CAMERA	* SUD/6/019	222,000	83,400	13,800	E1
UPGRADING RADIATION PROTECTION SERVICES	* SUD/9/006	-	108,350	94,200	H7
	SUB-TOTAL	390,860	298,600	288,840	
PRODUCTION OF BULK REAGENTS FOR IMMUNOASSAYS (PHASE II)	* SUD/4/005 a/	78,280	43,900	-	E1
DIAGNOSIS AND CONTROL OF ANIMAL DISEASES	* SUD/5/024 a/	32,600	33,550	34,750	D3
	SUB-TOTAL	110,880	77,450	34,750	
68. SYRIAN ARAB REPUBLIC					
NEUTRON ACTIVATION ANALYTICAL LABORATORY	* SYR/4/006	82,800	88,700	-	F1
IMPROVING ANIMAL PRODUCTION AND HEALTH	SYR/5/013	57,600	-	-	D3
RADIATION-INDUCED MUTATION FOR CROP IMPROVEMENT	* SYR/5/014	66,900	38,700	-	D2
STUDY OF PESTICIDE RESIDUES IN FOOD AND ENVIRONMENT	* SYR/5/015	71,200	72,700	-	D5
USE OF IRRADIATION FACILITY FOR STERILIZATION	* SYR/7/003	62,600	107,700	-	F1
ISOTOPE HYDROLOGY FOR IMPROVEMENT OF WATER MANAGEMENT	SYR/8/005	46,000	47,350	-	F2
FEASIBILITY STUDY FOR CYCLOTRON FACILITY	* SYR/8/006	29,400	12,000	-	G4
FEASIBILITY STUDY OF EB TECHNOLOGY FOR ENVIRONMENTAL CONTROL	* SYR/8/007	32,700	22,350	-	G4
	SUB-TOTAL	449,200	389,500	-	
69. THAILAND					
MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	THA/0/003	161,100	186,000	-	S3

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
NUCLEAR POWER PLANT PRE-FEASIBILITY STUDY	THA/0/004	22,800	-	-	A1
TRAINING CENTRE FOR APPLICATIONS OF LOW ENERGY ACCELERATORS	THA/4/011	87,000	115,050	-	G4
ESTABLISHMENT OF A NUCLEAR RESEARCH CENTRE	THA/4/013	73,800	77,400	-	G4
IMPROVING FERTILIZER USE EFFICIENCY	• THA/5/042	76,900	91,900	-	D5
IMPROVED SUGAR CANE PRODUCTION USING NUCLEAR TECHNIQUES	• THA/5/043	67,600	64,700	-	D1
EXTENSION OF NEONATAL SCREENING TO RURAL AREAS	• THA/6/029	61,300	62,350	-	E1
ISOTOPE-AIDED STUDIES OF GROUND WATER RESOURCES	THA/8/011	46,400	-	-	F2
	SUB-TOTAL	596,900	597,400	-	
DEVELOPMENT OF NUCLEAR REGULATORY ORGANIZATION	• THA/0/005 a/	42,000	63,750	-	I1
TRAINING COURSE ON ENVIRONMENTAL MONITORING	• THA/8/012 a/	140,740	-	-	G5
	SUB-TOTAL	182,740	63,750	-	

70. THE FORMER YUGOSLAV REP. OF MACEDONIA

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
PREPARATION OF RADIOIMMUNOASSAY KITS & RADIOPHARMACEUTICALS	• MAK/2/002	71,200	52,000	-	E1
IMMUNOASSAY TECHNOLOGIES FOR DIAGNOSIS OF LIVESTOCK DISEASES	• MAK/5/002	41,300	32,350	-	D3
PERSONNEL DOSIMETRY FOR OCCUPATIONAL RADIATION WORKERS	• MAK/9/002	81,300	10,350	-	H2
	SUB-TOTAL	193,800	94,700	-	
ISOTOPE & TRACER TECHNIQUES FOR WATER RESOURCES ASSESSMENT	• MAK/8/002 a/	98,200	103,300	-	F2
ESTABLISHING A NATIONAL NON-DESTRUCTIVE TESTING CENTRE	• MAK/8/003 a/	88,900	96,950	87,775	F1
	SUB-TOTAL	187,100	200,250	87,775	

71. TUNISIA

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
TEACHING OF NUCLEAR PHYSICS FOR MEDICAL APPLICATIONS	TUN/0/005	36,400	-	-	G2
ESTABLISHMENT OF A NUCLEAR SCIENCE LABORATORY FOR TRAINING	• TUN/0/006	51,400	72,000	-	G0

Member State and Title	Project code		1995 US$	1996 US$	Future years US$	SPC
USE OF RADIOELEMENTS IN RESEARCH PROGRAMMES	TUN/2/002		21,400	-	-	E1
REPAIR AND MAINTENANCE OF NUCLEAR INSTRUMENTATION	* TUN/4/003		54,300	51,000	-	G2
ASSESSMENT OF NITROGEN FIXATION IN TREES	TUN/5/014		32,800	-	-	D1
IMPROVING PRODUCTIVITY OF CATTLE	TUN/5/015		18,400	38,350	22,600	D3
ISOTOPE-AIDED IRRIGATION STUDIES	* TUN/5/016		-	47,350	43,400	D1
SCREENING OF NEWBORNS FOR NEONATAL HYPOTHYROIDISM (MP)	TUN/6/005		25,000	25,000	-	E1
ADVANCED NON-DESTRUCTIVE TESTING TECHNIQUES IN INDUSTRY	TUN/8/011		21,400	-	-	F1
USE OF ISOTOPES IN EVALUATION OF WATER RESOURCES	* TUN/8/012		5,700	47,350	56,100	F2
TREATMENT AND MANAGEMENT OF RADIOACTIVE WASTES	* TUN/9/009		38,000	38,900	-	C5
	SUB-TOTAL		304,800	319,950	122,100	
FOOD IRRADIATION PILOT PLANT	TUN/5/013	a/	225,200	113,200	-	D6
STRENGTHENING BRACHYTHERAPY FACILITIES	* TUN/6/006	a/	251,000	-	-	E2
	SUB-TOTAL		476,200	113,200	-	
72. TURKEY						
CYCLOTRON FACILITY	TUR/2/011		11,400	32,700	-	G4
POLLUTION INVESTIGATION OF KUCUKCEKMECE LAKE REGION	* TUR/2/012		81,200	101,700	-	G5
PRODUCTION OF RADIOPHARMACEUTICAL KITS	* TUR/2/013		38,000	46,900	-	G5
TECHNICAL SUPPORT FOR AN ELECTRON BEAM FACILITY	* TUR/4/022		135,400	222,350	354,200	F1
RINDERPEST SURVEILLANCE	* TUR/5/018		71,200	10,000	20,000	D3
STRENGTHENING OF RADIATION PROTECTION INFRASTRUCTURE	TUR/9/011		31,400	62,700	-	H1
CENTRE FOR TREATMENT AND DIAGNOSIS OF RADIATION EXPOSURE	* TUR/9/012		22,200	26,400	-	H2
	SUB-TOTAL		390,800	502,750	374,200	
IMMUNOASSAY TECHNIQUES FOR IMPROVING CATTLE PRODUCTION	* TUR/5/019	a/	44,200	36,650	-	D3
ESTABLISHMENT OF MOLECULAR RADIATION CYTOGENETICS LABORATORY	* TUR/6/009	a/	132,400	140,500	-	E3

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
GAMMA IRRADIATION FOR TISSUE STERILIZATION	• TUR/7/006 a/	125,800	35,000	-	E2
	SUB-TOTAL	302,400	212,150	-	
73. UGANDA					
IMPROVEMENT OF SWEET POTATO BY MUTATION BREEDING	• UGA/5/016	112,000	31,350	-	D2
INTEGRATED TSETSE CONTROL IN BUVUMA ISLAND ON LAKE VICTORIA	• UGA/5/018	92,700	94,700	77,000	D4
STUDIES ON INCREASING CROP YIELDS THROUGH NITROGEN FIXATION	• UGA/5/019	102,300	36,000	10,000	D1
ESTABLISHMENT OF IN-HOUSE RADIOPHARMACY SERVICES	• UGA/6/009	-	112,700	50,200	E1
	SUB-TOTAL	307,000	274,750	137,200	
DIAGNOSIS AND CONTROL OF TRYPANOSOMIASIS AND RINDERPEST	• UGA/5/017 a/	86,000	57,100	-	D3
74. UKRAINE					
TRAINING FOR SAFE OPERATION AND MANAGEMENT OF NPPS	• UKR/4/003	152,300	97,500	130,600	A2
ELECTRON BEAM SCRUBBING OF FLUE GASES IN THERMAL POWER PLANT	• UKR/8/002	59,000	119,700	-	F1
RADIATION PROTECTION	UKR/9/002	148,800	191,000	-	H0
RADIATION AND NUCLEAR SAFETY REGULATORY CAPABILITY	• UKR/9/006	133,100	75,300	82,560	I1
REDUCTION OF RADIONUCLIDES IN HUMAN FOOD AND ENVIRONMENT	• UKR/9/007	77,750	58,175	36,200	C3
ENVIRONMENTAL IMPACT ASSESSMENT FOR THE CHERNOBYL-4 SHELTER	• UKR/9/010	62,700	89,350	-	H3
RADIOACTIVE WASTE MANAGEMENT TECHNOLOGY	• UKR/9/011	60,500	82,900	-	C5
EDUCATION AND TRAINING IN RADIATION PROTECTION	• UKR/9/012	76,100	82,450	65,200	H1
	SUB-TOTAL	770,250	796,375	314,560	
ORGANIZATION OF UKRANIAN NUCLEAR DATA CENTRE	• UKR/0/003 a/	78,800	91,775	-	G1
TRAINING FOR SAFE OPERATION AND MANAGEMENT OF NPPS	• UKR/4/003 a/	90,400	249,200	111,600	A2
SEVERE ACCIDENT SIMULATOR FOR NUCLEAR POWER PLANTS	• UKR/9/008 a/	82,400	83,900	-	I5

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
SEMICONDUCTOR DOSIMETERS FOR MIXED RADIATION FIELDS	* UKR/9/009 a/	17,250	5,175	-	G2
	SUB-TOTAL	268,850	430,050	111,600	
75. UNITED ARAB EMIRATES					
INTRODUCTION OF ELISA TECHNIQUE FOR ANIMAL DISEASE DIAGNOSIS	UAE/5/002	16,400	-	-	D3
QUALITY CONTROL IN DIAGNOSTIC NUCLEAR MEDICINE	* UAE/6/003	39,000	40,950	-	E1
	SUB-TOTAL	55,400	40,950	-	
76. UNITED REPUBLIC OF TANZANIA					
NUCLEAR INSTRUMENTATION MAINTENANCE	URT/4/002	21,400	-	-	G2
IMPROVEMENT OF LIVESTOCK PRODUCTIVITY	URT/5/012	16,400	-	-	D3
CROP IMPROVEMENT THROUGH MUTATION BREEDING	* URT/5/017	54,900	63,700	-	D2
DEVELOPMENT OF DYNAMIC NUCLEAR IMAGING CAPABILITIES	* URT/6/009	81,300	73,050	-	E1
STRENGTHENING OF ISOTOPE HYDROLOGY APPLICATIONS	URT/8/008	42,800	22,000	-	F2
RADIATION PROTECTION (PHASE II)	URT/9/003	66,400	-	-	H7
	SUB-TOTAL	283,200	158,750	-	
PESTICIDE RESIDUES IN AGRICULTURAL PRODUCE & THE ENVIRONMENT	URT/5/014 a/	22,600	-	-	D5
TSETSE FLY ERADICATION ON ZANZIBAR ISLAND **(MP)**	URT/5/016 a/	1,780,800	1,599,600	-	D4
RADIOTHERAPY FACILITY AND THERAPY DOSIMETRY SYSTEM	URT/6/007 a/	317,500	107,450	-	E2
	SUB-TOTAL	2,120,900	1,707,050	-	
77. URUGUAY					
DESIGN OF NEW RADIOPHARMACEUTICALS	URU/2/009	72,800	-	-	G5

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
NUCLEAR TECHNIQUES IN SOIL DYNAMICS & FERTILIZER EFFICIENCY	URU/5/019 -	11,400	12,000	-	D1
IMMUNOASSAY TECHNIQUES IN ANIMAL DISEASE DIAGNOSIS	URU/5/020	21,400	22,000	-	D3
LABORATORY FOR PRODUCTION OF MONOCLONAL ANTIBODIES	URU/6/020	31,400	-	-	E1
EARLY DIAGNOSIS OF CONGENITAL DISEASES IN CHILDREN **(MP)**	• URU/6/022	125,880	28,400	-	E1
INDUSTRIAL APPLICATIONS OF ISOTOPES AND RADIATION	• URU/8/008	-	48,600	77,000	F1
STUDY OF ENVIRONMENTAL QUALITY OF THE BAY OF MONTEVIDEO	URU/8/009	71,400	85,450	31,200	F2
RADIATION TECHNOLOGY - IRRADIATOR	URU/8/010	22,800	24,000	200,000	F1
MANAGEMENT OF LOW AND MEDIUM LEVEL RADIOACTIVE WASTE	• URU/9/007	35,600	59,550	-	C1
	SUB-TOTAL	392,680	280,000	308,200	
RIA AS A TOOL TO IMPROVE MILK PRODUCTION IN SHEEP	• URU/5/021 a/	52,600	57,550	42,125	D3
UPGRADING SPECT TOMOGRAPHY FOR BRAIN STUDIES	• URU/6/021 a/	87,600	13,200	-	E1
	SUB-TOTAL	140,200	70,750	42,125	
78. UZBEKISTAN					
RADIATION PROTECTION AND WASTE MANAGEMENT SERVICES UPGRADING	UZB/9/002	59,400	55,900	-	H0
79. VENEZUELA					
GENETIC IMPROVEMENT OF FRUITS AND PEPPER	• VEN/5/018	98,500	87,900	-	D2
ANIMAL NUTRITION AND PRODUCTIVITY	• VEN/5/019	82,600	52,350	-	D3
DETECTION OF NEONATAL HYPOTHYROIDISM	• VEN/6/004	40,300	106,850	-	E1
EDUCATION AND REGULATORY ASPECTS OF RADIOPHARMACY	• VEN/6/005	49,600	25,800	-	G5
DETERMINATION OF ENVIRONMENTAL TOXICITY AND RADIOACTIVITY	• VEN/7/002	5,700	51,350	10,800	E4
GROUNDWATER RESOURCES IN THE CARACAS VALLEY **(MP)**	• VEN/8/010	136,200	41,900	31,200	F2
	SUB-TOTAL	412,900	366,150	42,000	

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
80. VIET NAM					
MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	• VIE/0/008	115,400	120,500	-	S3
RARE EARTH EXTRACTION TECHNOLOGY	• VIE/3/004	81,300	82,350	-	F1
LOCAL PRODUCTION OF NUCLEAR MEDICAL INSTRUMENTS	• VIE/4/013	65,200	59,800	-	G2
UPGRADING BRACHYTHERAPY SERVICES	VIE/6/018	11,400	-	-	E2
QA AND QC PROGRAMME FOR HOSPITAL RADIATION FACILITIES	• VIE/6/019	55,500	99,900	-	E2
ESTABLISHMENT OF A TISSUE BANK	• VIE/7/004	59,500	47,800	-	E2
NUCLEAR TECHNIQUES FOR GROUNDWATER POLLUTION PROTECTION	VIE/8/008	86,400	32,000	-	F2
NDT FOR INDUSTRIAL & ENGINEERING NON-METALLIC PRODUCTS	VIE/8/009	21,400	-	-	F1
RADIATION STERILIZATION OF HEALTH CARE PRODUCTS	• VIE/8/010	30,900	182,400	186,000	F1
	SUB-TOTAL	527,000	624,750	186,000	
STUDY OF SEDIMENTATION RATES USING CS-137 AND PB-210	• VIE/8/011 a/	55,500	52,950	-	F2
INFRASTRUCTURE FOR TREATMENT & MANAGEMENT OF RADWASTE	• VIE/9/007 a/	95,000	93,900	-	C5
	SUB-TOTAL	150,500	146,850	-	
81. ZAIRE					
UPGRADING NUCLEAR MEDICINE SERVICES	• ZAI/6/008	165,700	75,050	-	E1
IMPROVING THE SAFETY OF A RESEARCH REACTOR	• ZAI/9/006	45,700	37,350	-	I4
	SUB-TOTAL	211,400	112,400	-	
82. ZAMBIA					
DIAGNOSIS OF ANIMAL DISEASES	ZAM/5/018	32,800	-	-	D3
IMPROVEMENT OF BEANS THROUGH MUTATION BREEDING	• ZAM/5/020	71,200	44,800	-	D2
ESTABLISHMENT OF RADIOTHERAPY FACILITY	• ZAM/6/006	47,580	314,800	372,000	E2

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
GAMMA STERILIZED BIOLOGICAL TISSUE GRAFTS	ZAM/7/002	16,400	-	-	E2
	SUB-TOTAL	167,980	359,600	372,000	
UPGRADING NUCLEAR MEDICINE FACILITY WITH GAMMA CAMERA	• ZAM/6/007 g/	236,800	55,800	-	E1
83. ZIMBABWE					
SIT FOR TSETSE CONTROL PROGRAMMES	• ZIM/5/007	74,300	36,350	-	D4
NUTRITION OF GRAIN LEGUMES AND CEREALS	• ZIM/5/008	61,400	78,700	57,900	D1
MEDICAL PHYSICS (PHASE II)	ZIM/6/005	99,100	-	-	E2
ISOTOPES IN WATER RESOURCES ASSESSMENT AND DEVELOPMENT	• ZIM/8/003	15,600	77,700	71,300	F2
	SUB-TOTAL	250,400	192,750	129,200	
84. REGIONAL AFRICA					
PROJECT FORMULATION MEETINGS (AFRA XIII)	• RAF/0/010	57,000	48,000	-	S3
MANPOWER DEVELOPMENT	• RAF/0/011	1,081,200	1,172,100	-	S3
INSTITUTIONAL SUPPORT FOR LEAST DEVELOPED COUNTRIES	• RAF/0/012	138,800	187,500	-	S3
NUCLEAR INSTRUMENTATION (AFRA IV)	RAF/4/009	155,600	188,000	-	G2
RESEARCH REACTOR OPERATION AND UTILIZATION (AFRA XI)	• RAF/4/012	104,200	126,000	130,400	G4
FOOD PRESERVATION (AFRA II)	RAF/5/021	85,600	78,000	-	D6
RADIOISOTOPES IN ANIMAL REPRODUCTION & NUTRITION (AFRA VIII)	RAF/5/027	279,600	320,000	-	D3
DIAGNOSIS AND CONTROL OF LIVESTOCK DISEASES	• RAF/5/034	229,600	238,000	-	D3
CONTROL OF BAYOUD DISEASE IN DATE PALM	• RAF/5/035	82,800	110,000	-	D2
INCREASING FOOD SECURITY IN SUB-SAHARAN AFRICA	• RAF/5/036	757,200	691,000	-	D0
LOCAL PREPARATION OF RADIOIMMUNOASSAY REAGENTS (AFRA V)	RAF/6/007	182,800	144,000	-	E1
IMPROVEMENT OF CLINICAL RADIOTHERAPY (AFRA XII)	• RAF/6/014	175,600	220,000	228,200	E2
IRRADIATION PROCESSING (AFRA III)	RAF/8/016	45,600	-	-	F1
ISOTOPES IN GROUNDWATER RESOURCES DEVELOPMENT **(MP)**	• RAF/8/022	364,600	408,000	1,003,400	F2
WASTE MANAGEMENT (AFRA I)	RAF/9/007	95,600	88,000	50,400	C1
ENVIRONMENTAL RADIATION MEASUREMENT & HARMONIZATION(AFRA IX)	RAF/9/011	94,200	96,000	-	H3

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
UPGRADING RADIATION PROTECTION INFRASTRUCTURE IN AFRICA	• RAF/9/016	363,600	401,500	-	H7
	SUB-TOTAL	4,293,600	4,516,100	1,412,400	
NUCLEAR INSTRUMENTATION (AFRA IV)	RAF/4/009 a/	188,200	212,400	173,700	G2
NUCL. TECHNIQUES IN PLANT BREEDING & BIOTECHNOLOGY (AFRA X)	RAF/5/029 a/	190,400	162,800	175,800	D2
DIAGNOSIS AND CONTROL OF LIVESTOCK DISEASES	• RAF/5/034 a/	148,200	182,400	-	D3
LOCAL PREPARATION OF RADIOIMMUNOASSAY REAGENTS (AFRA V)	RAF/6/007 a/	100,000	100,000	-	E1
IMPROVEMENT OF CLINICAL RADIOTHERAPY (AFRA XII)	• RAF/6/014 a/	755,600	442,400	367,650	E2
NON-DESTRUCTIVE TESTING TECHNIQUES (AFRA VI)	RAF/8/017 a/	175,200	59,600	73,950	F1
	SUB-TOTAL	1,557,600	1,159,600	791,100	

85. REGIONAL EAST ASIA AND THE PACIFIC

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
DEVELOPMENT OF TCDC IN ASIA AND THE PACIFIC (RCA)	RAS/0/015	98,400	107,000	-	S3
NUCLEAR INFORMATION SYSTEM (RCA)	RAS/0/019	11,400	62,000	-	S5
PUBLIC ACCEPTANCE AND TRADE IN IRRADIATED FOOD (RCA)	• RAS/0/022	71,400	-	-	D6
ENERGY, ELECTRICITY AND NUCLEAR POWER PLANNING (RCA)	• RAS/0/023	51,300	242,000	-	A2
TRAINING IN NUCLEAR TECHNIQUES FOR ENVIRONMENTAL POLLUTION	• RAS/2/006	71,400	-	-	G5
NUCLEAR INSTRUMENT MAINTENANCE (RCA)	RAS/4/008	251,200	304,000	-	G2
RESEARCH REACTOR UTILIZATION (RCA)	RAS/4/011	99,200	38,000	-	G4
OPERATIONAL AND SAFETY ISSUES OF NUCLEAR POWER PLANTS	• RAS/4/015	103,200	106,800	-	I3
NUCLEAR TECHNIQUES FOR THE PROMOTION OF AGROFORESTRY SYSTEMS	• RAS/5/029	118,000	120,400	-	D1
FEED SUPPLEMENTATION AND ANIMAL PRODUCTION STRATEGIES	• RAS/5/030	139,600	126,000	-	D3
RADIOIMMUNOASSAY FOR HEPATITIS B DIAGNOSIS (RCA)	RAS/6/018	151,400	152,000	-	E1
RADIATION STERILIZATION OF TISSUE GRAFTS (RCA)	RAS/7/003	184,100	134,000	-	E2
ISOTOPES AND RADIATION IN INDUSTRY AND ENVIRONMENT (RCA)	RAS/8/068	160,200	156,000	-	F1
STRENGTHENING RADIATION PROTECTION INFRASTRUCTURES (RCA)	RAS/9/006	122,000	108,000	-	H0
	SUB-TOTAL	1,632,800	1,656,200	-	
NUCLEAR POWER PLANNING (RCA)	• RAS/0/021 a/	62,600	79,200	-	A1

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
PUBLIC ACCEPTANCE AND TRADE IN IRRADIATED FOOD (RCA)	• RAS/0/022 - a/	143,600	250,800	-	D6
STRENGTHENING NUCLEAR MEDICINE IN RCA MEMBER STATES	RAS/6/022 a/	122,000	-	-	E1
ISOTOPES AND RADIATION IN INDUSTRY AND THE ENVIRONMENT (RCA)	RAS/8/069 a/	154,500	-	-	F1
ISOTOPES AND RADIATION IN INDUSTRY AND THE ENVIRONMENT (RCA)	RAS/8/070 a/	328,800	351,600	-	F1
MEASUREMENT OF MARINE CONTAMINATION AND TRANSPORT PHENOMENA	• RAS/8/073 a/	50,400	50,600	-	C4
STRENGTHENING OF RADIATION PROTECTION INFRASTRUCTURES (RCA)	RAS/9/006 a/	176,500	168,800	-	H0
	SUB-TOTAL	1,038,400	901,000	-	

86. REGIONAL EUROPE

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
ESTABLISHING INIS CAPABILITIES IN THE NIS	• RER/0/011	152,800	125,750	65,200	S5
STUDY OF ENERGY OPTIONS USING IAEA PLANNING METHODOLOGIES	• RER/0/012	67,800	99,000	161,600	A1
MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	• RER/0/013	606,800	590,200	-	S3
IMPROVING NUCLEAR POWER PLANT OPERATION MANAGEMENT	• RER/4/011	181,200	190,200	-	A2
NUCLEAR FUEL MODELLING FOR WWER TYPE REACTORS	• RER/4/012	75,400	56,000	-	B2
MARINE ENVIRONMENTAL ASSESSMENT OF THE BLACK SEA REGION	• RER/8/005	34,200	24,000	-	F2
STRENGTHENING NUCLEAR SAFETY REGULATORY BODIES	RER/9/023	218,400	172,000	-	I1
PLANNING AND MANAGEMENT OF DECOMMISSIONING FOR WWER NPPS	• RER/9/034	34,200	48,000	103,200	C3
SUPPORT FOR NUCLEAR SAFETY IN CENTRAL AND EASTERN EUROPE	• RER/9/035	528,200	531,000	-	I2
RADIOACTIVE WASTE MANAGEMENT INFRASTRUCTURE	• RER/9/036	68,400	72,000	-	C5
	SUB-TOTAL	1,967,400	1,908,150	330,000	
IMPROVING NUCLEAR POWER PLANT OPERATION MANAGEMENT	• RER/4/011 a/	-	-	433,950	A2
NUCLEAR FUEL MODELLING FOR WWER TYPE REACTORS	• RER/4/012 a/	245,000	-	-	B2
MARINE ENVIRONMENTAL ASSESSMENT OF THE BLACK SEA REGION	• RER/8/005 a/	517,800	506,400	275,550	F2
DESIGN OF INTERIM STORAGE FOR SPENT NUCLEAR FUEL	• RER/9/037 a/	75,000	75,000	-	B3
	SUB-TOTAL	837,800	581,400	709,500	

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
87. REGIONAL LATIN AMERICA					
NUCLEAR TECHNOLOGY SUPPORT	* RLA/0/016	696,000	862,000	-	S3
NUCLEAR ANALYTICAL TECHNIQUES (ARCAL IV)	RLA/2/003	60,000	-	-	G5
PRODUCTION AND CONTROL OF RADIOPHARMACEUTICALS (ARCAL XV)	RLA/2/007	101,400	119,000	-	G5
NUCLEAR INSTRUMENTATION MAINTENANCE (ARCAL XIX)	* RLA/4/011	165,700	189,000	194,300	G2
CO-OPERATION IN NUCLEAR POWER MANAGEMENT	* RLA/4/012	79,800	84,000	-	A2
IMMUNOASSAY IN ANIMAL PRODUCTION AND HEALTH (ARCAL III)	RLA/5/028	241,800	-	-	D3
QUALITY ASSURANCE IN NUCLEAR MEDICINE	RLA/6/020	114,200	162,000	282,400	E1
DIAGNOSIS AND EPIDEMIOLOGY OF CHAGAS AND LEISHMANIASIS	* RLA/6/026	-	262,000	346,400	E1
UPGRADING NUCLEAR MEDICINE PRACTICES (ARCAL XXIII) **(MP)**	* RLA/6/027	124,900	149,000	253,600	E1
DIAGNOSIS OF HEPATITIS B INFECTION BY RIA	* RLA/6/028	70,000	164,000	268,400	E1
INDUSTRIAL APPLICATION OF NUCLEAR TECHNOLOGY (ARCAL XVI)	RLA/8/016	178,400	182,000	-	F1
TRACER TECHNIQUES IN DAM LEAKAGE (ARCAL XVIII)	RLA/8/018	134,200	136,000	-	F2
RADIATION PROTECTION LEGAL FRAMEWORK (ARCAL XVII)	RLA/9/016	118,500	150,000	-	H3
	SUB-TOTAL	2,084,900	2,459,000	1,345,100	
ENVIRONMENTAL STUDIES THROUGH BIOMONITORING (ARCAL XXV)	* RLA/2/008 g/	100,800	143,400	228,100	E4
INDUCED MUTATIONS AND BIOTECHNOLOGY (ARCAL XXI)	* RLA/5/034 g/	157,800	129,600	266,250	D2
EVALUATION OF CEREAL CROP MUTANTS (ARCAL XXIA)	* RLA/5/035 g/	313,100	323,450	655,540	D2
PLANT NUTRITION AND SOIL - WATER MANAGEMENT (ARCAL XXII)	* RLA/5/036 g/	250,100	248,400	488,800	D1
QUALITY ASSURANCE IN NUCLEAR MEDICINE.	RLA/6/020 g/	151,500	67,500	249,750	E1
IMPROVEMENT OF QUALITY OF RADIOTHERAPY PRACTICE (ARCAL XXIV)	* RLA/6/029 g/	235,300	240,250	206,100	E2
INDUSTRIAL APPLICATION OF NUCLEAR TECHNOLOGY (ARCAL XVI)	RLA/8/016 g/	107,800	109,600	-	F1
	SUB-TOTAL	1,316,400	1,262,200	2,094,540	
88. REGIONAL WEST ASIA					
STUDY OF ENERGY OPTIONS USING IAEA PLANNING METHODOLOGIES	* RAW/0/002	36,400	42,000	47,600	X0
ESTABLISHING NATIONAL AND REGIONAL INIS CAPABILITIES	* RAW/0/003	47,800	47,000	32,600	S5
MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	* RAW/0/004	377,400	393,600	-	S3

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
LOW ENERGY ACCELERATORS FOR SCIENCE AND TECHNOLOGY	* RAW/4/002	41,400	83,000	136,400	F1
WATER BALANCE AND FERTIGATION FOR CROP IMPROVEMENT	* RAW/5/002	94,200	98,000	-	D1
SUPPORT FOR RINDERPEST SURVEILLANCE IN WEST ASIA **(MP)**	* RAW/5/004	413,200	329,400	521,200	D3
SCREENING OF NEWBORNS FOR THYROID DEFICIENCY	* RAW/6/003	116,400	92,000	102,600	E1
MAINTENANCE AND QC OF NUCLEAR MEDICINE EQUIPMENT	* RAW/6/004	52,800	84,000	100,200	E1
ISOTOPE HYDROLOGY TECHNIQUES IN WATER RESOURCE MANAGEMENT	* RAW/8/002	82,800	98,000	-	F2
PREPARING STUDY OF CASPIAN SEA WATER LEVEL FLUCTUATIONS	* RAW/8/004	34,200	66,000	-	F2
RADIATION PROTECTION INFRASTRUCTURE IN WEST ASIA	* RAW/9/003	94,200	96,000	-	H1
	SUB-TOTAL	1,390,800	1,429,000	940,600	
DESALINATION USING NUCLEAR ENERGY	* RAW/4/003 a/	153,400	162,400	-	A1
PROMOTION OF IRRADIATION FOR FOOD PRESERVATION	* RAW/5/003 a/	62,800	69,600	-	D6
PROMOTION OF RADIATION PROCESSING TECHNIQUES IN INDUSTRY	* RAW/8/003 a/	75,400	82,800	-	F1
STUDY OF WATER LEVEL FLUCTUATIONS IN CASPIAN SEA	* RAW/8/005 a/	250,000	500,000	-	F2
	SUB-TOTAL	541,600	814,800	-	
89. INTERREGIONAL					
PRE-PROJECT ASSISTANCE	INT/0/048	229,800	410,000	-	S3
COUNTRY PROGRAMME REVIEW	INT/0/053	286,800	494,000	-	S3
TECHNICAL CO-OPERATION BETWEEN DEVELOPING COUNTRIES	* INT/0/060	65,400	92,700	-	S3
QUALITY ASSURANCE SERVICE FOR N-15 ANALYSES BY OES	INT/5/130	42,800	-	-	D1
SITING AND SEISMIC REVIEW OF RESEARCH AND POWER REACTORS	INT/9/122	159,600	-	-	I2
UPGRADING RADIATION PROTECTION INFRASTRUCTURE **(MP)**	INT/9/143	232,900	340,250	502,550	H0
UPGRADING WASTE MANAGEMENT INFRASTRUCTURE **(MP)**	INT/9/144	34,200	36,000	-	C5
SAFETY REVIEW OF RESEARCH REACTORS	* INT/9/152	34,200	36,000	-	I4
	SUB-TOTAL	1,085,700	1,408,950	502,550	

Member State and Title	Project code	1995 US$	1996 US$	Future years US$	SPC
UPGRADING RADIATION PROTECTION INFRASTRUCTURE (MP)	INT/9/143 g/	300,000	300,000	600,000	H0
UPGRADING WASTE MANAGEMENT INFRASTRUCTURE (MP)	INT/9/144 g/	117,400	189,250	373,400	C5
	SUB-TOTAL	417,400	489,250	973,400	
Operational projects		42,412,560	44,018,840	15,369,910	
Footnote-g/ projects		21,727,000	17,655,530	11,130,995	
GRAND TOTAL		64,139,560	61,674,370	26,500,905	

ASSISTANCE TO INDIVIDUAL MEMBER STATES
PLANNED FOR 1995-96
BY AGENCY SUBPROGRAMME CODE

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
A.1	**NUCLEAR POWER PLANNING AND IMPLEMENTATION**				
1.	ENERGY PLANNING FOR THE STATE OF MINAS GERAIS	• BRA/0/013	34,200	42,000	-
2.	ENERGY AND NUCLEAR POWER PLANNING STUDY USING ENPEP	• BYE/0/003	34,800	24,000	-
3.	ENERGY PLANNING WITH REFERENCE TO A NUCLEAR OPTION	COL/0/008	11,400	12,000	-
4.	ENERGY ECONOMIC CALCULATIONS WITH NUCLEAR OPTION (PHASE II)	INS/0/012	34,200	-	-
5.	SUPPORT FOR THE FIRST NUCLEAR POWER PLANT	INS/4/028	57,000	80,700	84,600
6.	INFRASTRUCTURE FOR IMPLEMENTATION OF NUCLEAR POWER PROGRAMME	• IRA/9/015	113,400	143,100	147,870
7.	ENERGY AND NUCLEAR POWER PLANNING STUDY	• PAK/0/006	36,000	-	-
8.	STUDY OF ENERGY OPTIONS USING IAEA PLANNING METHODOLOGIES	• RER/0/012	67,800	99,000	161,600
9.	CERNAVODA NUCLEAR POWER PLANT PROJECT MANAGEMENT	ROM/4/017	11,400	44,700	-
10.	NUCLEAR POWER PLANT PRE-FEASIBILITY STUDY	THA/0/004	22,800	-	-
		SUB-TOTAL	423,000	445,500	394,070
A.2	**ASSESSMENT AND IMPROVEMENT OF NUCLEAR POWER PLANT PERFORMANCE**				
1.	UPGRADING OF TRAINING FACILITIES OF KNPTC	PAK/4/038	11,400	52,000	-
2.	ENERGY, ELECTRICITY AND NUCLEAR POWER PLANNING (RCA)	• RAS/0/023	51,300	242,000	-
3.	IMPROVING NUCLEAR POWER PLANT OPERATION MANAGEMENT	• RER/4/011	181,200	190,200	-
4.	CO-OPERATION IN NUCLEAR POWER MANAGEMENT	• RLA/4/012	79,800	84,000	-
5.	TRAINING FOR SAFE OPERATION AND MANAGEMENT OF NPPS	• UKR/4/003	152,300	97,500	130,600
		SUB-TOTAL	476,000	665,700	130,600
A.3	**ADVANCED REACTOR DEVELOPMENTS AND APPLICATIONS**				
1.	RESEARCH REACTOR UTILIZATION (PHASE III)	BGD/4/018	50,900	45,800	-
2.	COMPUTER-AIDED DESIGN FOR CERNAVODA NPP ENGINEERING	ROM/4/015	31,200	-	-
		SUB-TOTAL	82,100	45,800	-

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
B.1	**RAW MATERIALS FOR REACTOR FUELS**				
1.	URANIUM FAVOURABILITY AND EXPLORATION	ARG/3/007	11,400	-	-
2.	URANIUM EXPLORATION AND DEVELOPMENT STUDY	* INS/3/011	85,400	85,425	-
3.	TARGET SELECTION FOR URANIUM PROSPECTION	* IRA/3/004	47,400	46,350	-
4.	ESTABLISHING A URANIUM DATA BANK	* NAM/3/002	51,400	42,350	-
5.	GAMMA-RAY SPECTROMETRIC SURVEY	PHI/3/008	77,800	-	-
		SUB-TOTAL	273,400	174,125	-
B.2	**REACTOR FUEL TECHNOLOGY AND PERFORMANCE**				
1.	ASSESSMENT OF CORROSION OF ZIRCALOY CLADDING IN NUCLEAR FUEL	* CZR/4/005	52,800	89,000	-
2.	NUCLEAR FUEL MODELLING FOR WWER TYPE REACTORS	* RER/4/012	75,400	56,000	-
		SUB-TOTAL	128,200	145,000	-
B.3	**SPENT FUEL MANAGEMENT, TECHNOLOGY AND SAFETY**				
1.	ENVIRONMENTAL RESTORATION FOR A SPENT FUEL AND RADWASTE SITE	* CZR/9/009	56,400	67,000	-
C.0	**RADIOACTIVE WASTE MANAGEMENT**				
1.	RADIOACTIVE WASTE CHARACTERIZATION PROGRAMME	* CZR/9/010	37,700	46,350	-
C.1	**HANDLING, TREATMENT, CONDITIONING AND STORAGE OF RADIOACTIVE WASTES**				
1.	LOW LEVEL SOLID WASTE MANAGEMENT	* ALG/9/008	-	77,700	73,400
2.	IMPROVING RADIOACTIVE WASTE MANAGEMENT	* COL/9/005	75,600	86,700	-
3.	SAFE TREATMENT AND DISPOSAL OF LOW LEVEL RADIOACTIVE WASTE	* CUB/9/010	70,580	69,800	26,300

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
4.	WASTE MANAGEMENT (AFRA I)	RAF/9/007	95,600	88,000	50,400
5.	RADIOACTIVE WASTE MANAGEMENT AND PROCESSING PROGRAMME	• SAU/9/004	21,300	22,350	-
6.	MANAGEMENT OF LOW AND MEDIUM LEVEL RADIOACTIVE WASTE	• URU/9/007	35,600	59,550	-
		SUB-TOTAL	298,680	404,100	150,100
C.3	**DECONTAMINATION AND DECOMMISSIONING OF NUCLEAR INSTALLATIONS**				
1.	PLANNING AND MANAGEMENT OF DECOMMISSIONING FOR WWER NPPS	• RER/9/034	34,200	48,000	103,200
2.	DECOMMISSIONING PLAN FOR WWER-S RESEARCH REACTOR	• ROM/9/017	95,000	84,800	-
3.	REDUCTION OF RADIONUCLIDES IN HUMAN FOOD AND ENVIRONMENT	• UKR/9/007	77,750	58,175	36,200
		SUB-TOTAL	206,950	190,975	139,400
C.4	**RADIOLOGICAL AND ENVIRONMENTAL ASPECTS OF WASTE MANAGEMENT**				
1.	MONITORING MARINE ENVIRONMENT CONTAMINANTS	• DOM/7/002	59,300	25,500	-
2.	PERFORMANCE & SAFETY ASSESSMENT OF WASTE DISPOSAL FACILITIES	• EGY/9/034	31,400	16,000	22,600
3.	RADIOACTIVITY AND CONTAMINATION OF THE MARINE ENVIRONMENT	• GUA/2/005	71,200	63,900	-
4	RADIATION PROTECTION IN WASTE HANDLING AND DISPOSAL	• GUA/9/004	60,300	49,800	-
5.	MARINE CONTAMINANTS AND SEDIMENT TRANSPORT	MAL/7/004	21,300	44,700	-
		SUB-TOTAL	243,500	199,900	22,600
C.5	**WASTE MANAGEMENT PLANNING AND INFRASTRUCTURE**				
1.	NUCLEAR POWER PROGRAMME SUPPORT	• CRO/9/005	42,000	24,000	-
2.	UPGRADING WASTE MANAGEMENT INFRASTRUCTURE **(MP)**	INT/9/144	34,200	36,000	-
3.	INFRASTRUCTURE FOR LOW LEVEL RADIOACTIVE WASTE MANAGEMENT	• NIR/9/008	11,400	107,700	48,400
4.	RADIOACTIVE WASTE MANAGEMENT INFRASTRUCTURE	• RER/9/036	68,400	72,000	-
5.	TREATMENT AND MANAGEMENT OF RADIOACTIVE WASTES	• TUN/9/009	38,000	38,900	-

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
6.	RADIOACTIVE WASTE MANAGEMENT TECHNOLOGY	• UKR/9/011	60,500	82,900	-
		SUB-TOTAL	254,500	361,500	48,400
D.0	**FOOD AND AGRICULTURE**				
1.	NUCLEAR TECHNIQUES IN AGRICULTURE	MON/5/006	42,600	-	-
2.	INCREASING FOOD SECURITY IN SUB-SAHARAN AFRICA	• RAF/5/036	757,200	691,000	-
		SUB-TOTAL	799,800	691,000	-
D.1	**SOIL FERTILITY, IRRIGATION AND CROP PRODUCTION**				
1.	BIOFERTILIZERS FOR INCREASED LEGUME PRODUCTION **(MP)**	• BGD/5/017	74,300	57,350	20,000
2.	RAPESEED CULTIVATION ON SOILS CONTAMINATED BY RADIONUCLIDES	• BYE/5/002	70,880	46,160	-
3.	MANAGEMENT SYSTEMS IN CROP PRODUCTION	CHI/5/018	11,400	-	-
4.	NITROGEN DYNAMICS	COS/5/016	36,000	-	-
5.	IMPROVING PLANT NUTRIENT SYSTEMS TO INCREASE CROP PRODUCTION	• CUB/5/015	66,820	67,990	28,820
6.	EFFICIENCY IN THE USE OF WATER AND FERTILIZER	ECU/5/018	19,400	-	-
7.	NUCLEAR TECHNIQUES IN DESERT FARMING	• EGY/5/024	134,900	78,000	32,000
8.	PLANT NUTRIENT MANAGEMENT IN TRADITIONAL CROPS	• GUA/5/011	56,600	72,700	12,600
9.	EFFECTIVE USE OF FERTILIZERS IN RICE CULTIVATION	• INS/5/024	132,400	64,700	56,000
10.	QUALITY ASSURANCE SERVICE FOR N-15 ANALYSES BY OES	INT/5/130	42,800	-	-
11.	IMPROVEMENT OF SOIL FERTILITY	• IRQ/5/012	117,300	130,000	-
12.	ISOTOPES IN OPTIMIZING MINERAL/WATER INPUTS IN AGRICULTURE	• IVC/5/022	86,200	110,050	-
13.	BIOLOGOICAL NITROGEN FIXATION	LIB/5/008	34,600	-	-
14.	NITROGEN FERTILIZER USE IN SUGAR CANE	MAR/5/008	11,400	-	-
15.	USE OF NUCLEAR TECHNIQUES IN AGRICULTURE	MEX/5/019	36,400	-	-
16.	ASSESSMENT OF NITROGEN EFFICIENCY USE IN SUGAR BEET	MOR/5/019	31,400	27,000	-
17.	IDENTIFYING N-FIXING TREES IN LOW PHOSPHATE SOILS	• MOR/5/022	51,400	62,000	105,200
18.	ISOTOPES AND NUCLEAR TECHNIQUES IN CROP PRODUCTION	MYA/5/006	21,400	-	-
19.	IMPROVING SOIL MANAGEMENT PRACTICES TO INCREASE CROP YIELD	• NIC/5/005	61,300	75,800	30,800
20.	ORGANIC MATTER AND NITROGEN DYNAMICS IN AGROFORESTRY SYSTEMS	NIR/5/026	64,600	-	-

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21.	NUCLEAR TECHNIQUES FOR THE PROMOTION OF AGROFORESTRY SYSTEMS	* RAS/5/029	118,000	120,400	-
22.	WATER BALANCE AND FERTIGATION FOR CROP IMPROVEMENT	* RAW/5/002	94,200	98,000	-
23.	USE OF ISOTOPES TO INCREASE RICE PRODUCTIVITY	* SIL/5/004	25,500	85,200	86,700
24.	INCREASING GROUNDNUT YIELD THROUGH BNF AND WATER MANAGEMENT	* SIL/5/005	64,700	49,700	-
25.	ISOTOPE TECHNIQUES FOR SUSTAINABLE INCREASED TEA PRODUCTION	SRL/5/029	30,000	17,000	-
26.	MANAGEMENT OF NUTRIENTS, WATER AND ORGANIC MATTER	* SUD/5/021	121,300	42,350	62,600
27.	IMPROVED SUGAR CANE PRODUCTION USING NUCLEAR TECHNIQUES	* THA/5/043	67,600	64,700	-
28.	ASSESSMENT OF NITROGEN FIXATION IN TREES	TUN/5/014	32,800	-	-
29.	ISOTOPE-AIDED IRRIGATION STUDIES	* TUN/5/016	-	47,350	43,400
30.	STUDIES ON INCREASING CROP YIELDS THROUGH NITROGEN FIXATION	* UGA/5/019	102,300	36,000	10,000
31.	NUCLEAR TECHNIQUES IN SOIL DYNAMICS & FERTILIZER EFFICIENCY	URU/5/019	11,400	12,000	-
32.	NUTRITION OF GRAIN LEGUMES AND CEREALS	* ZIM/5/008	61,400	78,700	57,900
		SUB-TOTAL	1,890,700	1,443,150	546,020

D.2 PLANT BREEDING AND GENETICS

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
1.	MUTATION BREEDING USING IN-VITRO TECHNIQUES	ALG/5/013	31,400	22,000	-
2.	EXTENSION SERVICES TO FARMERS ON PROMISING MUTANT VARIETIES	* BGD/5/019	42,700	53,950	-
3.	GENETIC IMPROVEMENT OF ANDEAN CROPS	* BOL/5/008	-	48,950	50,300
4.	NUCLEAR TECHNIQUES FOR PRODUCTION OF CULTIVARS OF FOOD CROPS	* BUL/5/010	116,060	161,820	115,000
5.	MUTATION BREEDING IN BANANAS AND PLANTAINS	COL/5/015	20,000	-	-
6.	MUTATION BREEDING OF PLANTAIN AND RICE	* COL/5/017	51,300	64,350	-
7.	MUTATION TECHNIQUES AND BIOTECHNOLOGY	* COS/5/017	37,700	55,800	-
8.	INDUCED MUTATIONS FOR IMPROVEMENT OF RICE	* CPR/5/010	79,500	84,300	54,200
9.	IMPROVEMENT OF COTTON & RAPESEED THROUGH INDUCED MUTATION	* CPR/5/011	-	120,000	142,700
10.	MUTATION BREEDING FOR TROPICAL CROP IMPROVEMENT	* CUB/5/016	73,900	82,700	20,000
11.	MUTATION BREEDING	GHA/5/023	13,400	-	-
12.	IMPROVEMENT OF STAPLE FOOD CROPS THROUGH MUTATION BREEDING	* GHA/5/025	-	32,000	28,400
13.	MUTATIONS AND BIOTECHNOLOGY FOR CROP IMPROVEMENT	* GUA/5/012	61,360	45,150	-
14.	NUCLEAR TECHNIQUES IN CEREAL PRODUCTION	* IRA/5/011	56,400	32,700	-
15.	MUTATION TECHNIQUES FOR CROP PROTECTION	IRQ/5/007	69,200	85,400	65,800
16.	PLANT MUTATION BREEDING OF DROUGHT RESISTANT LENTILS	* JOR/5/006	57,600	49,350	-
17.	MUTATION BREEDING AND BIOTECHNOLOGY FOR PLANT IMPROVEMENT	* MAL/5/021	75,200	87,900	-

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
18.	INCREASING GENETIC VARIABILITY OF ENDANGERED PLANT SPECIES.	* MEX/5/023	66,900	93,400	-
19.	FIELD PERFORMANCE OF SELECTED MUTANTS OF SORGHUM AND RICE **(MP)**	* MLI/5/014	162,600	154,700	134,200
20.	EXTENSION SERVICES FOR NEW VARIETIES OF WHEAT	* MON/5/008	46,400	75,900	-
21.	MUTATION BREEDING	MOR/5/016	51,400	64,000	-
22.	MUTATION BREEDING IN GRAIN LEGUMES	* MYA/5/008	27,700	37,700	26,600
23.	RADIATION MUTATION AND TISSUE CULTURE TECHNIQUES	NIR/5/025	52,600	-	-
24.	DEVELOPMENT OF LEAF CURL TOLERANT VARIETIES OF COTTON	* PAK/5/033	60,900	72,700	-
25.	GENETIC IMPROVEMENT OF OILSEED CROPS	* PAK/5/034	44,180	30,350	-
26.	MUTATION BREEDING AND BIOTECHNOLOGY IN AGRICULTURE	* POL/5/009	105,900	68,200	-
27.	CONTROL OF BAYOUD DISEASE IN DATE PALM	* RAF/5/035	82,800	110,000	-
28.	SUNFLOWER WITH IMPROVED OIL QUALITY AND DISEASE RESISTANCE	* ROM/5/007	50,900	66,700	18,300
29.	IMPROVEMENT OF GRAPE QUALITY BY IN-VITRO MUTAGENESIS	* ROM/5/008	45,100	65,900	5,000
30.	MUTATION BREEDING IN BANANAS AND PLANTAINS	* SRL/5/030	43,600	74,700	-
31.	IMPROVING COTTON AND SUGAR CANE CROPS (PHASE II)	* SUD/5/023	47,560	38,150	29,540
32.	RADIATION-INDUCED MUTATION FOR CROP IMPROVEMENT	* SYR/5/014	66,900	38,700	-
33.	IMPROVEMENT OF SWEET POTATO BY MUTATION BREEDING	* UGA/5/016	112,000	31,350	-
34.	CROP IMPROVEMENT THROUGH MUTATION BREEDING	* URT/5/017	54,900	63,700	-
35.	GENETIC IMPROVEMENT OF FRUITS AND PEPPER	* VEN/5/018	98,500	87,900	-
36.	IMPROVEMENT OF BEANS THROUGH MUTATION BREEDING	* ZAM/5/020	71,200	44,800	-
		SUB-TOTAL	2,077,760	2,245,220	690,040

D.3 ANIMAL PRODUCTION AND HEALTH

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
1.	ANIMAL SCIENCE	ALG/5/014	21,400	-	-
2.	OVINE DISEASE DIAGNOSIS	ARG/5/003	38,000	31,900	-
3.	ELISA TECHNIQUE FOR CONTROL OF ANIMAL DISEASES	* ARG/5/006	53,700	78,350	132,050
4.	IMPROVEMENT OF REPRODUCTION IN ANDEAN CATTLE	* BOL/5/010	-	52,000	48,000
5.	IMMUNOASSAY TECHNIQUES IN DIAGNOSIS OF ANIMAL DISEASE	BRA/5/027	16,400	-	-
6.	IMPROVING REPRODUCTIVE EFFICIENCY OF BUFFALO AND ZEBU	* BRA/5/030	48,000	45,800	-
7.	ELISA TECHNOLOGY FOR IMPROVING ANIMAL DISEASE DIAGNOSIS	BUL/5/009	16,400	17,000	-
8.	NUCLEAR & RELATED TECHN. FOR IMPROVING CATTLE PRODUCTION	CHI/5/017	21,400	-	-
9.	NUCLEAR TECHNIQUES IN ANIMAL PRODUCTION	* CHI/5/019	31,400	45,350	52,000
10.	IMPROVEMENT OF ANIMAL DISEASE DIAGNOSIS	* CMR/5/007	34,900	30,350	-

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
11.	DIAGNOSIS, MONITORING AND CONTROL OF ANIMAL DISEASES	* COS/5/019	38,000	28,900	-
12.	IMMUNOASSAY IN DIAGNOSIS OF ANIMAL DISEASE	CUB/5/013	21,300	17,000	-
13.	MONITORING VETERINARY DRUG RESIDUES IN MEAT & DAIRY PRODUCTS	* CYP/5/017	24,700	49,450	29,900
14.	USE OF IMMUNOASSAY TECHNIQUES IN ANIMAL DIAGNOSIS	ECU/5/017	18,400	-	-
15.	NUCLEAR AND RELATED TECHNIQUES IN ANIMAL SCIENCE	ELS/5/006	31,400	-	-
16.	ANIMAL SCIENCE (PHASE II)	ETH/5/009	16,400	-	-
17.	DIAGNOSIS AND MONITORING OF RINDERPEST AND TRYPANOSOMIASIS	* ETH/5/010	20,000	40,700	40,200
18.	NUCLEAR TECHNIQUES IN RUMINANT PRODUCTIVITY STUDIES	GHA/5/013	16,400	-	-
19.	DIAGNOSIS AND CONTROL OF DISEASES IN LIVESTOCK	GHA/5/018	16,400	-	-
20.	SERO-MONITORING OF RINDERPEST USING NUCLEAR TECHNIQUES	IRA/5/009	11,400	12,000	-
21.	ANIMAL SCIENCE	IVC/5/020	21,400	-	-
22.	RADIOIMMUNOASSAY IN ANIMAL PATHOLOGY - PHASE II	IVC/5/021	21,400	-	-
23.	IMPROVEMENT OF PRODUCTIVITY OF DAIRY CATTLE	KEN/5/017	18,400	19,000	-
24.	DIAGNOSIS AND CONTROL OF ANIMAL DISEASES	* KEN/5/019	29,900	30,350	27,600
25.	IMPROVEMENT OF LIVESTOCK PRODUCTIVITY THROUGH RIA	* LIB/5/009	71,200	22,000	17,600
26.	IMPROVEMENT OF ANIMAL PRODUCTIVITY AND HEALTH	MAG/5/006	21,400	-	-
27.	IMMUNOASSAY TECHNOLOGIES FOR DIAGNOSIS OF LIVESTOCK DISEASES	* MAK/5/002	41,300	32,350	-
28.	IMPROVEMENT OF ANIMAL PRODUCTIVITY	MAR/5/007	21,400	-	-
29.	NUTRITION/REPRODUCTION INTERACTION IN ZEBU	MEX/5/016	21,400	-	-
30.	IMMUNOASSAY METHODS FOR THE DIAGNOSIS OF ANIMAL DISEASES	MEX/5/020	21,400	-	-
31.	REPRODUCTION AND NUTRITION PROGRAMMES IN CATTLE BREEDING	* MEX/5/024	56,800	66,350	33,400
32.	IMPROVEMENT OF ANIMAL DISEASE DIAGNOSIS (PHASE II)	MLI/5/013	30,000	25,000	32,600
33.	IMPROVING LIVESTOCK PRODUCTIVITY AND HEALTH	* MON/5/007	44,600	45,800	-
34.	EPIDEMIOLOGICAL MONITORING OF VIRAL DISEASES	MOR/5/021	45,700	26,000	-
35.	IMPROVING CATTLE FERTILITY AND DISEASE DIAGNOSIS	MYA/5/007	61,200	64,300	-
36.	DIAGNOSIS OF ANIMAL DISEASES	NAM/5/002	21,400	-	-
37.	EVALUATION OF NUTRITIONAL VALUE OF NAMIBIAN RANGELAND	* NAM/5/003	61,300	37,350	-
38.	IMPROVING ANIMAL DISEASE DIAGNOSIS	* NER/5/009	15,700	26,350	-
39.	IMMUNOASSAYS IN ANIMAL HEALTH	PAN/5/009	18,400	19,000	-
40.	NUTRITION AND PRODUCTION STUDIES IN CATTLE	* PAN/5/011	67,700	55,700	-
41.	IMMUNOASSAY METHODS IN ANIMAL DISEASES	PAR/5/005	11,400	-	-
42.	FEED SUPPLEMENTATION FOR IMPROVING CATTLE PRODUCTIVITY	* PAR/5/006	64,700	55,350	-
43.	IMMUNOASSAY IN ANIMAL DISEASE STUDIES	PER/5/020	21,400	-	-
44.	NUCLEAR TECHNIQUES FOR IMPROVING ANIMAL PRODUCTIVITY	* PER/5/022	11,400	68,900	101,360
45.	RADIOIMMUNOASSAY FOR IMPROVING ANIMAL PRODUCTION	PHI/5/023	26,400	-	-

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
46.	RADIOISOTOPES IN ANIMAL REPRODUCTION & NUTRITION (AFRA VIII)	RAF/5/027	279,600	320,000	-
47.	DIAGNOSIS AND CONTROL OF LIVESTOCK DISEASES	• RAF/5/034	229,600	238,000	-
48.	FEED SUPPLEMENTATION AND ANIMAL PRODUCTION STRATEGIES	• RAS/5/030	139,600	126,000	-
49.	SUPPORT FOR RINDERPEST SURVEILLANCE IN WEST ASIA **(MP)**	• RAW/5/004	413,200	329,400	521,200
50.	IMMUNOASSAY IN ANIMAL PRODUCTION AND HEALTH (ARCAL III)	RLA/5/028	241,800	-	-
51.	IMPROVEMENT OF ZEBU PRODUCTIVITY	SEN/5/022	18,400	42,700	17,600
52.	IMPROVEMENT OF ANIMAL HEALTH AND DIAGNOSIS	• SEN/5/023	37,900	32,700	-
53.	ANIMAL SCIENCE	SIL/5/003	31,300	-	-
54.	INCREASING PRODUCTIVITY OF SMALLHOLDER DAIRY CATTLE	• SUD/5/022	-	26,350	88,700
55.	IMPROVING ANIMAL PRODUCTION AND HEALTH	SYR/5/013	57,600	-	-
56.	IMPROVING PRODUCTIVITY OF CATTLE	TUN/5/015	18,400	38,350	22,600
57.	RINDERPEST SURVEILLANCE	• TUR/5/018	71,200	10,000	20,000
58.	INTRODUCTION OF ELISA TECHNIQUE FOR ANIMAL DISEASE DIAGNOSIS	UAE/5/002	16,400	-	-
59.	IMPROVEMENT OF LIVESTOCK PRODUCTIVITY	URT/5/012	16,400	-	-
60.	IMMUNOASSAY TECHNIQUES IN ANIMAL DISEASE DIAGNOSIS	URU/5/020	21,400	22,000	-
61.	ANIMAL NUTRITION AND PRODUCTIVITY	• VEN/5/019	82,600	52,350	-
62.	DIAGNOSIS OF ANIMAL DISEASES	ZAM/5/018	32,800	-	-
		SUB-TOTAL	3,051,500	2,280,450	1,184,810

D.4 INSECT AND PEST CONTROL

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
1.	FRUIT FLY ERADICATION IN THE SOUTHERN REGION **(MP)**	ARG/5/005	379,000	364,500	275,100
2.	INSECT PEST MANAGEMENT BY GENETIC MANIPULATION	BGD/5/016	21,400	-	-
3.	RADIATION TREATMENT FOR PEST AND PLANT DISEASE CONTROL	• IRA/5/010	26,100	30,900	-
4.	CONTROL OF TSETSE FLY AND TRYPANOSOMIASIS IN LAMBWE VALLEY	• KEN/5/020	74,800	75,500	-
5.	SIT TO CONTROL FRUIT TREE PESTS	• LEB/5/013	91,000	44,350	-
6.	CONTROL OF DIAMONDBACK MOTH BY STERILE INSECT TECHNIQUE	• MAR/5/009	85,500	107,700	97,800
7.	CONTROL OF PINK BOLLWORM TO IMPROVE COTTON PRODUCTION	• PAK/5/032	91,700	101,900	-
8.	FEASIBILITY STUDY OF INTEGRATED CONTROL OF FRUIT FLIES	PHI/5/022	62,600	54,700	-
9.	MEDITERRANEAN FRUIT FLY PROGRAMME ON MADEIRA	• POR/5/005	118,900	112,000	132,000
10.	INTEGRATED TSETSE CONTROL IN BUVUMA ISLAND ON LAKE VICTORIA	• UGA/5/018	92,700	94,700	77,000

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
11.	SIT FOR TSETSE CONTROL PROGRAMMES	• ZIM/5/007	74,300	36,350	-
		SUB-TOTAL	1,118,000	1,022,600	581,900

D.5 AGROCHEMICALS AND RESIDUES

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
1.	AGROCHEMICAL RESIDUES (PHASE II)	• BGD/5/018	36,400	45,800	-
2.	MIGRATION OF RADIONUCLIDES IN CONTAMINATED SOILS	• BYE/5/003	52,300	18,300	-
3.	ENVIRONMENTAL IMPACT OF SELECTED HERBICIDES	• COL/5/016	64,600	50,800	87,400
4.	THE FATE OF HERBICIDES IN SOILS, WATER AND PLANTS	• CYP/5/016	22,280	89,300	17,600
5.	FATE OF FUNGICIDES IN FOOD AND ENVIRONMENT	• ECU/5/019	81,400	69,900	-
6.	BEHAVIOUR AND FATE OF PESTICIDES IN VEGETABLES	• MAL/5/022	46,400	50,200	-
7.	PESTICIDE RESIDUES IN FOOD AND ENVIRONMENT	• MOR/5/023	71,400	74,000	-
8.	IMPACT OF PESTICIDES ON THE ECOSYSTEM	PAK/5/029	21,300	-	-
9.	BOUND PESTICIDE RESIDUES: IMPACT IN FOOD AND ENVIRONMENT	PAN/5/008	31,400	-	-
10.	IMPACT OF AGROCHEMICALS IN GREENHOUSE FARMING	• ROK/5/030	46,200	54,700	55,100
11.	STUDY OF PESTICIDE RESIDUES IN FOOD AND ENVIRONMENT	• SYR/5/015	71,200	72,700	-
12.	IMPROVING FERTILIZER USE EFFICIENCY	• THA/5/042	76,900	91,900	-
		SUB-TOTAL	621,780	617,600	160,100

D.6 FOOD PRESERVATION

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
1.	INDUSTRIAL SCALE IRRADIATION OF RICE AND OTHER FOODSTUFFS **(MP)**	CPR/5/009	65,400	-	-
2.	FOOD IRRADIATION PILOT PLANT	• EGY/5/023	22,800	24,000	-
3.	PILOT SCALE STUDIES IN FOOD IRRADIATION	GHA/5/022	21,400	-	-
4.	COBALT-60 IRRADIATION FACILITY (PHASE II)	• JOR/7/002	147,700	184,350	725,800
5.	FOOD PRESERVATION (AFRA II)	RAF/5/021	85,600	78,000	-
6.	PUBLIC ACCEPTANCE AND TRADE IN IRRADIATED FOOD (RCA)	• RAS/0/022	71,400	-	-
7.	FOOD IRRADIATION FEASIBILITY STUDY	• SAU/5/002	21,300	28,950	-
		SUB-TOTAL	435,600	315,300	725,800

E.1 NUCLEAR MEDICINE

	Agency Subprogramme and TC Project Title	Project code -	1995 US$	1996 US$	Future years US$
1.	UPGRADING OF A CENTRE FOR NUCLEAR MEDICINE	* ALB/6/007	211,000	113,400	-
2.	LABELLED COMPOUNDS IN CANCER TREATMENT	* ARG/6/006	-	90,900	63,300
3.	UPGRADING OF NUCLEAR MEDICINE SERVICES	BOL/6/018	67,800	84,000	-
4.	DRUG RESISTANCE IN MALARIA PARASITES	* COL/6/007	49,900	44,350	-
5.	PAEDIATRIC NUCLEAR MEDICINE	* COS/6/009	33,700	73,000	12,600
6.	TRAINING TECHNOLOGISTS/PHYSICIANS IN NUCLEAR MEDICINE	* CPR/6/003	57,200	44,000	-
7.	IMPROVING RADIOTHERAPY AND NUCLEAR MEDICINE TRAINING	* EGY/6/006	78,780	8,400	-
8.	PRODUCTION OF RIA REAGENTS AND RADIOPHARMACEUTICAL KITS	* ETH/6/006	81,300	52,350	-
9.	NUCLEAR MEDICINE NETWORK	GUA/6/011	46,400	-	-
10.	REHABILITATION OF NUCLEAR MEDICINE SERVICES	* IRQ/6/008	81,300	102,350	-
11.	ESTABLISHMENT OF RADIOIMMUNOASSAY LABORATORY	IVC/6/002	21,400	-	-
12.	PREPARATION OF RADIOIMMUNOASSAY KITS & RADIOPHARMACEUTICALS	* MAK/2/002	71,200	52,000	-
13.	UPGRADING NUCLEAR MEDICINE SERVICES	MAL/6/013	31,200	32,700	-
14.	IMPROVEMENT OF RADIOIMMUNOASSAY SERVICE AT VICTORIA HOSPITAL	* MAR/6/003	35,100	18,800	-
15.	NUCLEAR MEDICINE (PHASE II)	MLI/6/004	41,400	32,000	-
16.	UPGRADING NUCLEAR MEDICINE SERVICES	* MON/6/005	46,300	57,700	-
17.	NUCLEAR TECHNIQUES IN DIAGNOSIS OF TUBERCULOSIS	* MYA/6/018	41,300	32,350	-
18.	RIA REAGENTS FOR NEONATAL HYPOTHYROID SCREENING	* MYA/6/019	51,200	52,700	-
19.	UPGRADING OF RADIOIMMUNOASSAY LABORATORY	* NAM/6/004	59,600	27,000	-
20.	ESTABLISHMENT OF A NUCLEAR MEDICINE FACILITY (PHASE I, RIA)	* NER/6/002	86,900	89,400	-
21.	LOCAL PREPARATION OF RADIOIMMUNOASSAY REAGENTS (AFRA V)	RAF/6/007	182,800	144,000	-
22.	RADIOIMMUNOASSAY FOR HEPATITIS B DIAGNOSIS (RCA)	RAS/6/018	151,400	152,000	-
23.	SCREENING OF NEWBORNS FOR THYROID DEFICIENCY	* RAW/6/003	116,400	92,000	102,600
24.	MAINTENANCE AND QC OF NUCLEAR MEDICINE EQUIPMENT	* RAW/6/004	52,800	84,000	100,200
25.	QUALITY ASSURANCE IN NUCLEAR MEDICINE	RLA/6/020	114,200	162,000	282,400
26.	DIAGNOSIS AND EPIDEMIOLOGY OF CHAGAS AND LEISHMANIASIS	* RLA/6/026	-	262,000	346,400
27.	UPGRADING NUCLEAR MEDICINE PRACTICES (ARCAL XXIII) **(MP)**	* RLA/6/027	124,900	149,000	253,600
28.	DIAGNOSIS OF HEPATITIS B INFECTION BY RIA	* RLA/6/028	70,000	164,000	268,400
29.	ESTABLISHING MEDICAL PHYSICS PROGRAMME AT CUZA UNIVERSITY	* ROM/6/012	114,500	136,550	-
30.	QUALITY CONTROL IN RADIATION TREATMENT OF THYROID CANCER	* SAU/6/003	21,300	22,350	-
31.	UPGRADING NUCLEAR MEDICINE FACILITIES	* SEN/6/010	31,400	35,800	-
32.	NUCLEAR IMAGING IN MEDICAL DIAGNOSIS	* SRL/6/020	101,300	-	-
33.	RADIOIMMUNOASSAY IN DIAGNOSIS	* SRL/6/022	44,600	30,800	-

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
34.	UPGRADING NUCLEAR MEDICINE FACILITY WITH GAMMA CAMERA	* SUD/6/019	222,000	83,400	13,800
35.	EXTENSION OF NEONATAL SCREENING TO RURAL AREAS	* THA/6/029	61,300	62,350	-
36.	USE OF RADIOELEMENTS IN RESEARCH PROGRAMMES	TUN/2/002	21,400	-	-
37.	SCREENING OF NEWBORNS FOR NEONATAL HYPOTHYROIDISM (MP)	TUN/6/005	25,000	25,000	-
38.	QUALITY CONTROL IN DIAGNOSTIC NUCLEAR MEDICINE	* UAE/6/003	39,000	40,950	-
39.	ESTABLISHMENT OF IN-HOUSE RADIOPHARMACY SERVICES	* UGA/6/009	-	112,700	50,200
40.	DEVELOPMENT OF DYNAMIC NUCLEAR IMAGING CAPABILITIES	* URT/6/009	81,300	73,050	-
41.	LABORATORY FOR PRODUCTION OF MONOCLONAL ANTIBODIES	URU/6/020	31,400	-	-
42.	EARLY DIAGNOSIS OF CONGENITAL DISEASES IN CHILDREN (MP)	* URU/6/022	125,880	28,400	-
43.	DETECTION OF NEONATAL HYPOTHYROIDISM	* VEN/6/004	40,300	106,850	-
44.	UPGRADING NUCLEAR MEDICINE SERVICES	* ZAI/6/008	165,700	75,050	-
		SUB-TOTAL	3,131,860	3,049,650	1,493,500

E.2 APPLIED RADIATION BIOLOGY AND RADIOTHERAPY

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
1.	MASTER'S DEGREE IN MEDICAL PHYSICS	* ARG/6/007	63,000	47,200	-
2.	ESTABLISHMENT OF A HUMAN TISSUE BANK USING GAMMA RADIATION	ARG/7/005	54,600	-	-
3.	INTRODUCTION OF BRACHYTHERAPY	* BGD/6/013	81,300	58,950	-
4.	TISSUE BANKING	BGD/7/005	33,900	30,400	-
5.	RADIOTHERAPY	BOL/6/019	203,500	218,700	-
6.	RADIOTHERAPY SOURCES AND BRACHYTHERAPY FOR CANCER TREATMENT	* BRA/4/044	84,600	99,000	-
7.	QUALITY CONTROL IN RADIOTHERAPY	* CHI/6/014	-	79,330	89,600
8.	REPLACEMENT OF COBALT-60 RADIOTHERAPY UNIT SOURCE	CMR/6/004	11,400	-	-
9.	QUALITY CONTROL FOR RADIATION STERILIZED TISSUE GRAFTS	* CPR/7/004	-	72,600	23,200
10	ESTABLISHMENT OF BRACHYTHERAPY SERVICES	* DOM/6/002	182,900	292,000	-
11	MANUFACTURE OF A SIMPLE COBALT TELETHERAPY MACHINE	EGY/4/035	42,800	-	-
12	UPGRADING RADIATION THERAPY FACILITIES	* ETH/6/007	-	180,900	82,400
13	NATIONAL RADIOTHERAPY AND NUCLEAR MEDICINE NETWORK (MP)	GHA/6/009	198,000	331,200	118,800
14	RADIATION STERILIZATION OF HUMAN TISSUE GRAFTS	* INS/7/003	98,780	55,800	-
15	REHABILITATION OF RADIOTHERAPY SERVICES FOR CANCER	* IRQ/6/009	42,000	122,350	70,800
16	MONOCLONAL ANTIBODY PRODUCTION AND RIA DEVELOPMENT	* MAL/6/015	45,600	39,200	-
17	STERILIZATION OF TISSUE GRAFTS	MAL/7/003	27,600	39,300	-
18	UPGRADING RADIATION THERAPY SERVICES (MP)	* MON/6/006	137,500	222,700	-

	Agency Subprogramme and TC Project Title	Project code -	1995 US$	1996 US$	Future years US$
19.	DOSE PLANNING FOR CANCER TREATMENT	* MOR/6/011	71,400	42,350	42,600
20.	ESTABLISHMENT OF A CENTRAL RADIOTHERAPY UNIT	* NAM/6/003	51,000	53,400	-
21.	MEDICAL PHYSICS TRAINING	* PER/0/020	28,500	66,000	-
22.	GAMMA STERILIZATION OF BIOLOGICAL TISSUES	* PER/7/002	57,950	34,625	-
23.	IMPROVEMENT OF CLINICAL RADIOTHERAPY (AFRA XII)	* RAF/6/014	175,600	220,000	228,200
24.	RADIATION STERILIZATION OF TISSUE GRAFTS (RCA)	RAS/7/003	184,100	134,000	-
25.	QUALITY ASSURANCE AND QUALITY CONTROL IN RADIOTHERAPY	* ROM/6/013	61,920	75,600	-
26.	RADIATION STERLIZATION OF HUMAN TISSUE FOR TRANSPLANTATION (MP)	SRL/7/003	72,200	29,000	51,400
27.	UPGRADING BRACHYTHERAPY SERVICES	VIE/6/018	11,400	-	-
28.	QA AND QC PROGRAMME FOR HOSPITAL RADIATION FACILITIES	* VIE/6/019	55,500	99,900	-
29.	ESTABLISHMENT OF A TISSUE BANK	* VIE/7/004	59,500	47,800	-
30.	ESTABLISHMENT OF RADIOTHERAPY FACILITY	* ZAM/6/006	47,580	314,800	372,000
31.	GAMMA STERILIZED BIOLOGICAL TISSUE GRAFTS	ZAM/7/002	16,400	-	-
32.	MEDICAL PHYSICS (PHASE II)	ZIM/6/005	99,100	-	-
		SUB-TOTAL	2,299,630	3,007,105	1,079,000

E.3 DOSIMETRY

1.	RADIATION PHYSICS LABORATORY	ALG/6/007	11,400	-	-
2.	ESTABLISHMENT OF MEDICAL PHYSICS TRAINING	* COL/6/008	60,600	102,100	-
3.	ESTABLISHMENT OF A BIOLOGICAL DOSIMETRY LABORATORY	* ECU/9/012	64,200	70,800	40,800
4.	QUALITY CONTROL PROGRAMME FOR RADIODIAGNOSIS SERVICES	* MEX/6/004	72,400	74,700	-
		SUB-TOTAL	208,600	247,600	40,800

E.4 NUTRITIONAL AND HEALTH-RELATED ENVIRONMENTAL STUDIES

1.	ISOTOPE-AIDED STUDIES OF MALNUTRITION DEFICIENCIES	* CMR/2/003	46,400	42,350	-
2.	CONTROL OF ENVIRONMENTAL AND AGRICULTURAL PRODUCTS	* COS/2/004	77,600	70,900	-
3.	USE OF ISOTOPES IN ASSESSING MICRONUTRIENT DEFICIENCIES	* ETH/7/003	154,000	92,900	39,800
4.	USE OF ISOTOPES IN INVESTIGATING MICRONUTRIENT DEFICIENCIES	* MAR/7/002	-	41,350	75,500
5.	RADIOACTIVE PROBES FOR DETECTION OF PARASITES	MEX/7/006	53,000	-	-

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
6.	NUCLEAR TECHNIQUES TO IMPROVE CHILD NUTRITION **(MP)**	• PER/7/003	281,900	280,450	99,100
7.	USE OF ISOTOPES IN INVESTIGATING MICRONUTRIENT DEFICIENCIES	• SIL/7/002	87,600	62,350	20,000
8.	DETERMINATION OF ENVIRONMENTAL TOXICITY AND RADIOACTIVITY	• VEN/7/002	5,700	51,350	10,800
		SUB-TOTAL	706,200	641,650	245,200

F.1 INDUSTRIAL APPLICATIONS

1.	MATERIALS FOR BIOMEDICAL AND AGRICULTURAL USE	• ARG/8/011	18,000	75,450	85,200
2.	ELECTRON BEAM PURIFICATION OF FLUE GAS	BRA/8/021	51,300	54,350	-
3.	RADIO-INDUCED POLYMER MODIFICATION AND VULCANIZATION	BRA/8/023	71,400	-	-
4.	ELECTRON BEAM PURIFICATION OF WASTEWATER	• BRA/8/025	34,600	112,900	-
5.	FEASIBILITY STUDY FOR FLUE GAS CONTROL BY EB TECHNOLOGY	• BUL/8/013	57,700	-	-
6.	ELECTRON BEAM TREATMENT OF FLUE GASES	• CHI/8/022	105,800	32,100	-
7.	RADIOGRAPHIC CONTROL LABORATORY	COS/8/005	41,400	-	-
8.	TREATING PULP WASTE LIQUOR WITH PLASMA	• CPR/8/009	-	132,600	13,200
9.	DEVELOPMENT & INTRODUCTION OF NUCLEONIC SYSTEMS IN INDUSTRY	• CUB/8/014	62,200	66,350	-
10.	SEALED SOURCES AND NUCLEONIC CONTROL SYSTEMS IN INDUSTRY	• IRA/8/012	78,000	85,800	34,200
11.	NON-DESTRUCTIVE TESTING	LIB/8/003	42,600	64,700	-
12.	UTILIZATION OF ELECTRON BEAM MACHINE	MAL/8/012	92,600	44,700	-
13.	NON-DESTRUCTIVE TESTING LABORATORY	MYA/8/004	59,600	60,800	-
14.	RADIATION PROCESSING OF CABLE INSULATION MATERIALS(PHASE II)	• PAK/8/010	47,700	48,900	-
15.	OPERATION OF MULTI-PURPOSE IRRADIATION PLANT	• PER/8/009	-	101,350	28,800
16.	TRAINING CENTRE FOR NON-DESTRUCTIVE TESTING (PHASE II)	• PHI/8/019	61,300	52,350	-
17.	INDUSTRIAL SCALE DEMO PLANT FOR EB PURIFICATION OF FLUE GAS **(MP)**	POL/8/014	437,100	690,000	646,300
18.	DEVELOPMENT OF NEUTRONIC ON-LINE INDUSTRIAL COAL ANALYSER	• POL/8/015	22,300	47,900	-
19.	IRRADIATION PROCESSING (AFRA III)	RAF/8/016	45,600	-	-
20.	ISOTOPES AND RADIATION IN INDUSTRY AND ENVIRONMENT (RCA)	RAS/8/068	160,200	156,000	-
21.	LOW ENERGY ACCELERATORS FOR SCIENCE AND TECHNOLOGY	• RAW/4/002	41,400	83,000	136,400
22.	INDUSTRIAL APPLICATION OF NUCLEAR TECHNOLOGY (ARCAL XVI)	RLA/8/016	178,400	182,000	-
23	MULTI-PURPOSE IRRADIATION FACILITY	ROM/8/011	22,800	162,000	162,600
24.	TRAINING IN NUCLEAR SCIENCE AND ENGINEERING	• SAU/0/003	45,300	47,550	-
25.	INDUSTRIAL APPLICATIONS OF RADIOACTIVE SOURCES	• SAU/8/005	21,300	28,950	-
26.	NEUTRON ACTIVATION ANALYTICAL LABORATORY	• SYR/4/006	82,800	88,700	-

	Agency Subprogramme and TC Project Title	Project code -	1995 US$	1996 US$	Future years US$
27.	WIDER USE OF IRRADIATION FACILITY TO IMPROVE HEALTH CARE	• SYR/7/003	62,600	107,700	-
28.	ADVANCED NON-DESTRUCTIVE TESTING TECHNIQUES IN INDUSTRY	TUN/8/011	21,400	-	-
29.	TECHNICAL SUPPORT FOR AN ELECTRON BEAM FACILITY	• TUR/4/022	135,400	222,350	354,200
30.	ELECTRON BEAM SCRUBBING OF FLUE GASES IN THERMAL POWER PLANT	• UKR/8/002	59,000	119,700	-
31.	INDUSTRIAL APPLICATIONS OF ISOTOPES AND RADIATION	• URU/8/008	-	48,600	77,000
32.	RADIATION TECHNOLOGY - IRRADIATOR	URU/8/010	22,800	24,000	200,000
33.	RARE EARTH EXTRACTION TECHNOLOGY	• VIE/3/004	81,300	82,350	-
34.	NDT FOR INDUSTRIAL & ENGINEERING NON-METALLIC PRODUCTS	VIE/8/009	21,400	-	-
35.	RADIATION STERILIZATION OF HEALTH CARE PRODUCTS	• VIE/8/010	30,900	182,400	186,000
		SUB-TOTAL	2,316,200	3,205,550	1,923,900

F.2 DEVELOPMENT OF WATER RESOURCES

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
1.	TRACER TECHNIQUES IN SEDIMENTOLOGY STUDIES	ALG/8/006	21,400	-	-
2.	CHARACTERIZATION OF KARSTIC BASINS IN A SEMI-ARID REGION	• BRA/8/024	56,400	90,400	-
3.	ISOTOPE TECHNIQUES IN WATER POLLUTION STUDY	• CHI/8/023	11,400	114,860	49,040
4.	GROUNDWATER POLLUTION STUDY	• COS/8/006	11,400	43,950	51,700
5.	STUDY OF THE DYNAMICS OF LAKE ENRIQUILLO	DOM/8/006	32,800	-	-
6.	ISOTOPE HYDROLOGY AND GEOCHEMISTRY IN GEOTHERMAL FIELDS (MP)	• ELS/8/005	51,600	45,000	-
7.	GEOTHERMAL EXPLORATION OF SOUSSAKI, METHANA AND AEGHINA	• GRE/8/010	-	41,175	26,200
8.	STUDIES OF ISOTOPES IN KARSTIC AQUIFERS	• IRA/8/011	24,600	25,800	-
9.	ISOTOPE STUDY OF UNDERGROUND WATER RESOURCES	• LEB/8/003	56,400	43,950	-
10.	ENVIRONMENTAL IMPACT ASSESSMENT ON DUMPING GROUNDS	• MAL/8/014	24,000	22,350	-
11.	STUDIES FOR GEOTHERMAL BRINES REINJECTION.	• MEX/8/020	76,900	68,200	-
12.	MANAGEMENT OF WATER RESOURCES IN THE LERMA-CHAPALA BASIN.	• MEX/8/021	144,200	70,150	-
13.	SURFACE WATER MANAGEMENT	MLI/8/004	72,400	58,000	-
14.	SEDIMENTATION STUDY AT INLE LAKE	MYA/8/003	23,800	-	-
15.	HYDROGEOCHEMICAL AND ISOTOPIC STUDY OF MULTILAYER AQUIFER	NER/8/006	21,400	-	-
16.	STUDY OF THE WESTERN AQUIFER	• NIC/8/009	32,600	49,700	-
17.	EVALUATION OF ANTHROPOGENIC IMPACT ON LAKE XOLOTLAN	• NIC/8/010	61,300	74,100	-
18.	ISOTOPE HYDROLOGY IN SOUTHERN PERU	• PER/8/010	96,900	68,350	-
19.	ISOTOPE TECHNIQUES IN GEOTHERMAL HYDROLOGY	PHI/8/016	108,900	73,700	-
20.	GROUNDWATER SYSTEMS STUDIES BY ISOTOPE TECHNIQUES	PHI/8/018	21,400	-	-

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
21.	ISOTOPES IN GROUNDWATER RESOURCES DEVELOPMENT **(MP)**	* RAF/8/022	364,600	408,000	1,003,400
22.	ISOTOPE HYDROLOGY TECHNIQUES IN WATER RESOURCE MANAGEMENT	* RAW/8/002	82,800	98,000	-
23.	PREPARING STUDY OF CASPIAN SEA WATER LEVEL FLUCTUATIONS	* RAW/8/004	34,200	66,000	-
24.	MARINE ENVIRONMENTAL ASSESSMENT OF THE BLACK SEA REGION	* RER/8/005	34,200	24,000	-
25.	TRACER TECHNIQUES IN DAM LEAKAGE (ARCAL XVIII)	RLA/8/018	134,200	136,000	-
26.	SEDIMENT DYNAMICS INVESTIGATION BY NUCLEAR TECHNIQUES	ROM/8/013	45,000	20,700	-
27.	WATER RESOURCE MANAGEMENT USING HIGH SENSITIVITY CHLORINE-36	* ROM/8/014	67,720	88,800	-
28.	STRENGTHENING ISOTOPE HYDROLOGY APPLICATIONS	* SAU/8/004	21,300	22,350	-
29.	ISOTOPE HYDROLOGY FOR IMPROVEMENT OF WATER MANAGEMENT	SYR/8/005	46,000	47,350	-
30.	ISOTOPE-AIDED STUDIES OF GROUND WATER RESOURCES	THA/8/011	46,400	-	-
31.	USE OF ISOTOPES IN EVALUATION OF WATER RESOURCES	* TUN/8/012	5,700	47,350	56,100
32.	STRENGTHENING OF ISOTOPE HYDROLOGY APPLICATIONS	URT/8/008	42,800	22,000	-
33.	STUDY OF ENVIRONMENTAL QUALITY OF THE BAY OF MONTEVIDEO	URU/8/009	71,400	85,450	31,200
34.	GROUNDWATER RESOURCES IN THE CARACAS VALLEY **(MP)**	* VEN/8/010	136,200	41,900	31,200
35.	NUCLEAR TECHNIQUES FOR GROUNDWATER POLLUTION PROTECTION	VIE/8/008	86,400	32,000	-
36.	ISOTOPES IN WATER RESOURCES ASSESSMENT AND DEVELOPMENT	* ZIM/8/003	15,600	77,700	71,300
		SUB-TOTAL	2,184,320	2,107,285	1,320,140

G.0 PHYSICAL AND CHEMICAL SCIENCES

1.	ESTABLISHMENT OF A NUCLEAR SCIENCE LABORATORY FOR TRAINING	* TUN/0/006	51,400	72,000	-

G.1 NUCLEAR AND ATOMIC DATA FOR APPLICATIONS

1.	TEACHING APPLIED NUCLEAR PHYSICS	ETH/1/002	74,200	-	-

G.2 NUCLEAR INSTRUMENTATION

1.	MAINTENANCE AND QUALITY CONTROL OF MEDICAL EQUIPMENT	ALG/4/006	31,400	-	-
2.	UPGRADING NUCLEAR MEDICAL EQUIPMENT	* BGD/4/020	50,300	57,700	-
3.	UPGRADING MAINTENANCE AND REPAIR OF CLINICAL DOSIMETERS	* BRA/1/031	45,900	52,350	-

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
4.	DESIGN AND DEVELOPMENT OF NUCLEAR INSTRUMENTATION	• EGY/4/038	-	56,000	44,100
5.	UPGRADING NUCLEAR APPLICATIONS LABORATORY	• ELS/4/005	88,820	128,000	-
6.	UPGRADING A NUCLEAR ANALYTICAL LABORATORY	• GRE/2/025	84,960	28,600	-
7.	REPAIR OF RADIATION DETECTORS	MEX/4/045	47,800	-	-
8.	SIMULATION OF A NUCLEAR REACTOR OPERATION	MOR/4/009	31,400	-	-
9.	MAINTENANCE OF RESEARCH REACTOR INSTRUMENTATION	• MOR/4/011	19,800	47,000	42,600
10.	A NATIONAL CENTRE FOR NUCLEAR INSTRUMENT MAINTENANCE	• MYA/4/006	41,400	71,660	44,200
11.	NUCLEAR INSTRUMENTATION REPAIR AND MAINTENANCE LABORATORY	• NIR/4/004	97,600	32,000	36,300
12.	NEUTRON SCATTERING SPECTROMETER	• POR/1/008	22,100	22,000	-
13.	NUCLEAR INSTRUMENTATION (AFRA IV)	RAF/4/009	155,600	188,000	-
14.	NUCLEAR INSTRUMENT MAINTENANCE (RCA)	RAS/4/008	251,200	304,000	-
15.	NUCLEAR INSTRUMENTATION MAINTENANCE (ARCAL XIX)	• RLA/4/011	165,700	189,000	194,300
16.	TEACHING OF NUCLEAR PHYSICS FOR MEDICAL APPLICATIONS	TUN/0/005	36,400	-	-
17.	REPAIR AND MAINTENANCE OF NUCLEAR INSTRUMENTATION	• TUN/4/003	54,300	51,000	-
18.	NUCLEAR INSTRUMENTATION MAINTENANCE	URT/4/002	21,400	-	-
19.	LOCAL PRODUCTION OF NUCLEAR MEDICAL INSTRUMENTS	• VIE/4/013	65,200	59,800	-
		SUB-TOTAL	1,311,280	1,287,110	361,500
G.4	**UTILIZATION OF RESEARCH REACTORS AND PARTICLE ACCELERATORS**				
1.	UTILIZATION OF RESEARCH REACTOR NEUTRON BEAMS	ALG/1/010	171,400	-	-
2.	DEVELOPMENT OF IRRADIATION TECHNIQUES	• ALG/1/014	111,300	139,700	105,200
3.	DEVELOPMENT OF COMPUTER CODES FOR REACTOR ENGINEERING	BGD/4/019	11,400	-	-
4.	NUCLEAR METHODS IN MATERIAL RESEARCH	CRO/8/002	41,400	-	-
5.	UTILIZATION OF A CYCLOTRON FACILITY	• EGY/0/013	68,700	394,700	212,600
6.	UPGRADING OF RESEARCH REACTOR UTILIZATION	EGY/1/022	72,800	-	-
7.	UTILIZATION OF RESEARCH REACTOR	• GHA/4/010	92,800	96,000	-
8.	ADVANCED NUCLEAR ANALYTICAL TECHNIQUES	GRE/2/024	31,300	25,000	-
9.	COLD NEUTRON SOURCE FOR THE BUDAPEST RESEARCH REACTOR	• HUN/4/012	90,800	149,200	-
10.	ACCELERATOR-BASED ANALYTICAL TECHNIQUES	IRA/4/020	49,000	65,050	-
11.	PUSPATI TRIGA REACTOR: POWER UPGRADING PROJECT	MAL/4/007	22,800	-	-
12.	ESTABLISHING A REACTOR FACILITY	• NIR/1/009	41,100	405,050	1,131,600
13.	RESEARCH REACTOR MODERNIZATION	• PER/4/017	58,600	55,850	-

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
14.	UPGRADING PULSED NEUTRON LABORATORY FOR CALIBRATION	* POL/4/010	51,400	-	-
15.	RESEARCH REACTOR OPERATION AND UTILIZATION (AFRA XI)	* RAF/4/012	104,200	126,000	130,400
16.	RESEARCH REACTOR UTILIZATION (RCA)	RAS/4/011	99,200	38,000	-
17.	MATERIALS CHARACTERIZATION WITH RESEARCH REACTOR	* ROK/1/013	62,400	77,400	-
18.	BEAM TRANSPORT SYSTEM FOR A VAN DE GRAAFF ACCELERATOR	* SLO/1/003	124,300	136,900	260,000
19.	FEASIBILITY STUDY FOR CYCLOTRON FACILITY	* SYR/8/006	29,400	12,000	-
20.	FEASIBILITY STUDY OF EB TECHNOLOGY FOR ENVIRONMENTAL CONTROL	* SYR/8/007	32,700	22,350	-
21.	TRAINING CENTRE FOR APPLICATIONS OF LOW ENERGY ACCELERATORS	THA/4/011	87,000	115,050	-
22.	ESTABLISHMENT OF A NUCLEAR RESEARCH CENTRE	THA/4/013	73,800	77,400	-
23.	CYCLOTRON FACILITY	TUR/2/011	11,400	32,700	-
		SUB-TOTAL	1,539,200	1,968,350	1,839,800
G.3	**CHEMISTRY**				
1.	PRODUCTION AND QUALITY CONTROL OF RADIOPHARMACEUTICALS	* ALB/6/006	122,400	83,400	54,200
2.	ESTABLISHMENT OF A MONOCLONAL ANTIBODY PRODUCTION FACILITY	* ALG/2/005	-	46,000	44,200
3.	PRODUCTION OF RADIOPHARMACEUTICALS (PHASE II)	ALG/4/005	25,700	46,000	-
4.	PRODUCTION AND QUALITY CONTROL OF THERAPEUTIC RADIONUCLIDES	* BRA/2/010	68,520	72,350	-
5.	DEVELOPMENT & OPTIMIZATION OF NUCLEAR ANALYTICAL TECHNIQUES	CHI/2/013	11,400	-	-
6.	PRODUCTION AND QUALITY CONTROL OF RADIOTHERAPEUTIC AGENTS	CHI/4/019	30,000	-	-
7.	DEVELOPMENT OF LITHIUM CERAMIC MATERIALS	* CHI/4/020	144,600	144,000	-
8.	MANPOWER TRAINING IN RADIOCHEMISTRY	COL/2/013	21,300	-	-
9.	PRODUCTION OF GEL TC-99M GENERATORS FOR NUCLEAR MEDICINE **(MP)**	CPR/2/006	66,400	12,000	-
10.	RADIOPHARMACEUTICALS FOR CANCER THERAPY	* CPR/2/007	82,000	26,900	-
11.	PREPARATION OF LABELLED COMPOUNDS TO STUDY PHARMACEUTICALS	* CUB/2/009	61,300	51,350	-
12.	DEVELOPMENT OF KITS FOR IMMUNOSCINTIGRAPHY	* CUB/2/010	59,420	43,000	30,000
13.	DIAGNOSIS AND MONITORING OF ENVIRONMENTAL POLLUTION	* ECU/2/009	69,380	46,350	30,700
14.	PRODUCTION OF RADIOISOTOPES (PHASE III)	* EGY/2/005	63,000	43,900	-
15.	NUCLEAR TECHNIQUES IN ANALYTICAL CHEMISTRY	GRE/2/021	45,700	66,000	-
16.	PRODUCTION OF LABELLED ISOTOPES	INS/2/011	37,800	-	-
17.	INSTRUMENTAL CHEMICAL ANALYSIS	INS/2/013	81,400	-	-
18.	DEVELOPMENT OF RIA KITS	IRA/2/005	21,400	-	-
19.	CYCLOTRON PRODUCTION OF RADIONUCLIDES	* IRA/4/023	248,300	207,300	118,900

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
20.	NEUTRON ACTIVATION ANALYSIS AND TRAINING LABORATORY	* JOR/2/003	69,400	76,700	-
21.	ELEMENTAL ANALYSIS AND APPLICATIONS	* LEB/2/004	41,300	62,950	-
22.	DETERMINING IMPURITIES IN RADIOPHARMACEUTICALS	* LIB/2/002	37,300	53,700	-
23.	PRODUCTION OF RADIOPHARMACEUTICALS	LIB/4/008	57,600	-	-
24.	IMPROVEMENT OF NUCLEAR ANALYTICAL TECHNIQUES	* MAG/2/002	84,860	67,950	-
25.	DEVELOPMENT OF NUCLEAR ANALYTICAL TECHNIQUES	* MON/2/007	98,900	113,300	107,600
26.	LOCAL PREPARATION OF RIA KITS	* MOR/2/002	-	82,000	48,400
27.	QUALITY CONTROL OF RADIOPHARMACEUTICALS	* PAR/2/003	45,000	25,350	-
28.	TRAINING IN NUCLEAR TECHNIQUES FOR ENVIRONMENTAL POLLUTION	* RAS/2/006	71,400	-	-
29.	NUCLEAR ANALYTICAL TECHNIQUES (ARCAL IV)	RLA/2/003	60,000	-	-
30.	PRODUCTION AND CONTROL OF RADIOPHARMACEUTICALS (ARCAL XV)	RLA/2/007	101,400	119,000	-
31.	CYCLOTRON UTILIZATION FOR MEDICAL PURPOSES	ROK/4/025	33,900	22,350	-
32.	POLLUTION INVESTIGATION OF KUCUKCEKMECE LAKE REGION	* TUR/2/012	81,200	101,700	-
33.	PRODUCTION OF RADIOPHARMACEUTICAL KITS	* TUR/2/013	38,000	46,900	-
34.	DESIGN OF NEW RADIOPHARMACEUTICALS	URU/2/009	72,800	-	-
35.	EDUCATION AND REGULATORY ASPECTS OF RADIOPHARMACY	* VEN/6/005	49,600	25,800	-
		SUB-TOTAL	2,202,680	1,686,250	434,000

H.0 RADIATION SAFETY

1.	STRENGTHENING RADIATION PROTECTION INFRASTRUCTURE	* ALB/9/004	62,880	91,040	-
2.	STRENGTHENING OF RADIATION PROTECTION INFRASTRUCTURE	BGD/9/008	49,600	66,940	-
3.	RADIATION METROLOGY NETWORK	BRA/9/047	51,400	-	-
4.	RADIATION PROTECTION AND WASTE MANAGEMENT SERVICES UPGRADING	EST/9/002	53,700	25,450	-
5.	UPGRADING RADIATION PROTECTION INFRASTRUCTURE **(MP)**	INT/9/143	232,900	340,250	502,550
6.	STRENGTHENING RADIATION PROTECTION	IRA/9/012	89,400	63,900	-
7.	RADIATION PROTECTION AND WASTE MANAGEMENT SERVICES UPGRADING	KAZ/9/003	72,300	67,800	-
8.	RADIATION PROTECTION AND WASTE MANAGEMENT SERVICES UPGRADING	LAT/9/002	53,700	25,450	-
9.	RADIATION PROTECTION AND WASTE MANAGEMENT SERVICES UPGRADING	LIT/9/002	53,700	25,450	-
10.	STRENGTHENING OF RADIATION PROTECTION	MON/9/004	66,000	62,800	-
11.	STRENGTHENING RADIATION PROTECTION INFRASTRUCTURES (RCA)	RAS/9/006	122,000	108,000	-
12.	RADIATION PROTECTION	UKR/9/002	148,800	191,000	-

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
13.	RADIATION PROTECTION AND WASTE MANAGEMENT SERVICES UPGRADING	UZB/9/002	59,400	55,900	-
		SUB-TOTAL	1,115,780	1,123,980	502,550

H.1 STRENGTHENING OF RADIATION SAFETY

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
1.	STRENGTHENING RADIOLOGICAL PROTECTION	* BOL/9/007	85,600	89,850	-
2.	RADIATION PROTECTION (PHASE II)	* COS/9/005	21,400	58,950	72,900
3.	INFRASTRUCTURE FOR RADIATION PROTECTION AND NUCLEAR SAFETY	CRO/9/002	116,600	84,700	-
4.	TRAINING IN OPERATIONAL SAFETY OF NUCLEAR INSTALLATIONS	* CUB/0/006	37,820	40,240	6,300
5.	NATIONAL POLICY AND IMPLEMENTATION OF RADIATION PROTECTION	* CYP/9/005	21,400	43,300	-
6.	NATIONAL RADIATION PROTECTION SYSTEM	ELS/9/007	72,800	-	-
7.	RADIATION PROTECTION PROGRAMME (PHASE II)	MAL/9/011	11,400	-	-
8.	ESTABLISHMENT OF RADIATION PROTECTION INFRASTRUCTURE	* MYA/9/004	41,400	62,700	44,200
9.	NATIONAL RADIATION PROTECTION SYSTEM	NIC/9/003	84,200	-	-
10.	DEVELOPMENT OF RADIATION PROTECTION LEGISLATION	* PAN/9/007	24,700	67,450	-
11.	SAFETY SERVICES FOR RADIATION SOURCES	* PAR/9/004	51,100	78,400	-
12.	RADIATION PROTECTION INFRASTRUCTURE IN WEST ASIA	* RAW/9/003	94,200	96,000	-
13.	RADIATION PROTECTION LEGISLATION	* SLR/9/006	38,700	37,800	-
14.	STRENGTHENING OF RADIATION PROTECTION (PHASE II)	* SRL/9/007	21,400	42,700	-
15.	STRENGTHENING OF RADIATION PROTECTION INFRASTRUCTURE	TUR/9/011	31,400	62,700	-
16.	EDUCATION AND TRAINING IN RADIATION PROTECTION	* UKR/9/012	76,100	82,450	65,200
		SUB-TOTAL	830,220	847,240	188,600

H.2 OCCUPATIONAL RADIATION PROTECTION

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
1	RADIATION EMERGENCY PLANNING AND PREPAREDNESS	* ALG/9/009	15,600	152,000	53,400
2.	RADIATION PROTECTION IN IPEN	BRA/9/046	41,400	-	-
3.	STRENGTHENING APPLICATIONS OF RADIATION IN MEDICINE	* CRO/9/006	83,840	66,300	-
4.	RADIATION PROTECTION	CUB/9/009	36,400	25,000	-
5.	QUALITY CONTROL IN RADIOTHERAPY	* DOM/9/004	34,000	28,900	-
6.	RADIATION DOSIMETRY	* LEB/9/003	55,600	37,950	-

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
7.	PERSONNEL DOSIMETRY FOR OCCUPATIONAL RADIATION WORKERS	* MAK/9/002	81,300	10,350	-
8.	TLD DOSIMETRY FOR PERSONNEL DOSIMETRY SERVICES	* PHI/9/020	141,500	142,700	59,200
9.	CALIBRATION FACILITIES FOR RADIATION PROTECTION MEASUREMENTS	* POL/9/019	194,000	152,350	-
10.	DOSIMETRY IN MEDICINE AND RADIOLOGICAL HEALTH	* ROK/9/039	42,600	68,250	-
11.	CENTRE FOR TREATMENT AND DIAGNOSIS OF RADIATION EXPOSURE	* TUR/9/012	22,200	26,400	-
		SUB-TOTAL	748,440	710,200	112,600

H.3 RADIATION PROTECTION OF THE PUBLIC AND THE ENVIRONMENT

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
1.	ENVIRONMENTAL RADIOACTIVITY LABORATORY & MONITORING NETWORK	* ALB/9/003	88,140	109,200	20,460
2.	IMPROVING NATIONAL INFRASTRUCTURE FOR RADIATION PROTECTION	* ARM/9/004	68,600	67,550	86,800
3.	RADIATION PROTECTION IN RADIODIAGNOSTICS	CHI/9/018	62,800	-	-
4.	ENVIRONMENTAL MONITORING SYSTEM DEVELOPMENT	INS/9/020	-	90,700	46,800
5.	RADIOLOGICAL EMERGENCY RESPONSE TRAINING	* JOR/9/006	72,600	68,950	-
6.	RADIATION PROTECTION (PHASE II)	* NAM/9/003	11,400	82,000	-
7.	ENVIRONMENTAL MONITORING	PAN/9/005	41,400	-	-
8.	QUALITY CONTROL IN MAMMOGRAPHY	* PAN/9/006	46,600	37,000	-
9.	AIR POLLUTANT CHARACTERIZATION AND SOURCE IDENTIFICATION	* PHI/9/021	67,400	18,000	-
10.	ENVIRONMENTAL RADIATION MEASUREMENT & HARMONIZATION(AFRA IX)	RAF/9/011	94,200	96,000	-
11.	RADIATION PROTECTION LEGAL FRAMEWORK (ARCAL XVII)	RLA/9/016	118,500	150,000	-
12.	MONITORING ENVIRONMENTAL RADIATION (PHASE II)	* ROK/9/038	37,080	32,700	-
13.	UPGRADING ENVIRONMENTAL RADIOACTIVITY SURVEILLANCE LAB	ROM/9/012	129,600	164,050	-
14.	ENVIRONMENTAL RADIOACTIVITY AND NUCLEAR TECHNIQUES	* SAU/9/003	27,600	28,950	-
15.	ENVIRONMENTAL IMPACT ASSESSMENT FOR THE CHERNOBYL-4 SHELTER	* UKR/9/010	62,700	89,350	-
		SUB-TOTAL	928,620	1,034,450	154,060

H.5 EMERGENCY PREPAREDNESS

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
1.	OFF-SITE EMERGENCY RESPONSE	BRA/9/042	24,300	80,900	-

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
2.	RADIOLOGICAL ACCIDENT PREPAREDNESS AND MANAGEMENT	* SLO/9/007	118,900	113,200	-
		SUB-TOTAL	143,200	194,100	-
H.6	**SAFETY OF RADIATION SOURCES**				
1.	DIAGNOSTIC RADIOLOGY RADIATION PROTECTION	* JOR/9/007	82,660	83,500	-
H.7	**RADIATION SAFETY SERVICES**				
1.	STRENGTHENING RADIATION SAFETY SERVICE	* MAG/9/003	82,600	64,350	-
2.	RADIATION PROTECTION	MAR/9/002	21,400	-	-
3.	RADIATION PROTECTION (PHASE II)	MOR/9/009	111,400	82,000	20,000
4.	NATIONAL RADIATION PROTECTION PROGRAMME	NER/9/007	21,400	-	-
5.	ESTABLISHING A CALIBRATION LABORATORY	* NIR/9/007	122,700	62,350	-
6.	UPGRADING RADIATION PROTECTION INFRASTRUCTURE IN AFRICA	* RAF/9/016	363,600	401,500	-
7.	ESTABLISHING PERSONNEL DOSIMETRY SERVICE	* SLR/9/008	64,700	45,450	-
8.	UPGRADING RADIATION PROTECTION SERVICES	* SUD/9/006	-	108,350	94,200
9.	RADIATION PROTECTION (PHASE II)	URT/9/003	66,400	-	-
		SUB-TOTAL	854,200	764,000	114,200
I.0	**SAFETY OF NUCLEAR INSTALLATIONS**				
1.	SEISMIC SAFETY RE-EVALUATION OF MEDZANOR NUCLEAR POWER PLANT	ARM/9/002	50,800	59,800	59,400
2.	SAFETY CULTURE IN REGULATORY PRACTICES	* CZR/9/008	34,200	44,400	-
3.	SAFETY SUPPORT TO CHASNUPP	* PAK/9/018	60,300	63,300	204,360
		SUB-TOTAL	145,300	167,500	263,760

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
I.1	**STRENGTHENING BASIC NUCLEAR SAFETY**				
1.	RESTRUCTURING NUCLEAR SAFETY REGULATORY BODY	ARM/9/003	60,300	42,900	-
2.	ESTABLISHING REGULATORY PROCEDURES AND STANDARDS LABORATORY	• BYE/9/004	98,000	175,800	69,800
3.	STRENGTHENING NUCLEAR SAFETY REGULATORY BODIES	RER/9/023	218,400	172,000	-
4.	STRENGTHENING NATIONAL SAFETY STANDARDS	• ROK/9/037	66,600	89,400	-
5.	STRENGTHENING THE NUCLEAR SAFETY REGULATORY BODY **(MP)**	SLR/9/005	103,200	107,700	-
6.	RADIATION AND NUCLEAR SAFETY REGULATORY CAPABILITY	• UKR/9/006	133,100	75,300	82,560
		SUB-TOTAL	679,600	663,100	152,360
I.2	**ENGINEERING SAFETY ISSUES OF NUCLEAR POWER PLANTS**				
1.	AC-600 ADVANCED PWR PASSIVE SAFETY SYSTEM STUDY	• CPR/4/016	79,500	72,400	-
2.	RULES FOR DESIGN AND MANUFACTURE OF NPP COMPONENTS	• CPR/4/017	18,600	26,400	-
3.	SEVERE ACCIDENT ANALYSIS AND COUNTERMEASURES FOR QINSHAN NPP	• CPR/9/020	193,600	188,100	-
4.	NUCLEAR POWER PLANT SITING	INS/9/012	57,000	48,000	-
5.	SITING AND SEISMIC REVIEW OF RESEARCH AND POWER REACTORS	INT/9/122	159,600	-	-
6.	DEVELOPMENT OF A SIMULATOR FOR A NUCLEAR POWER PLANT	• PAK/4/039	61,300	84,700	65,200
7.	SUPPORT FOR NUCLEAR SAFETY IN CENTRAL AND EASTERN EUROPE	• RER/9/035	528,200	531,000	-
8.	LICENSING OF CERNAVODA NUCLEAR POWER PLANT	ROM/9/007	34,600	71,400	-
		SUB-TOTAL	1,132,400	1,022,000	65,200
I.3	**OPERATIONAL SAFETY OF NUCLEAR POWER PLANTS**				
1.	OSART MISSION TO QINSHAN NUCLEAR POWER PLANT	• CPR/9/022	-	108,000	-
2.	STRENGTHENING TRAINING FOR OPERATIONAL SAFETY AT PAKS NPP **(MP)**	HUN/9/019	216,200	218,200	95,400
3.	SAFE OPERATION OF THE KARACHI NUCLEAR POWER PLANT	PAK/9/010	54,600	51,300	-
4.	OPERATIONAL AND SAFETY ISSUES OF NUCLEAR POWER PLANTS	• RAS/4/015	103,200	106,800	-
5.	UPGRADING OF KRSKO NPP	SLO/9/002	22,800	-	-
		SUB-TOTAL	396,800	484,300	95,400

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
I.4	**RESEARCH REACTOR SAFETY**				
1.	OPERATIONAL SAFETY OF THE ES-SALAM REACTOR	• ALG/9/010	22,800	24,000	-
2.	RESEARCH REACTOR SAFETY ANALYSIS	• BGD/9/009	52,000	53,350	-
3.	RESEARCH REACTOR SAFETY ANALYSIS REPORTS REVIEW & ASSESSMENT	• EGY/9/032	84,300	57,300	-
4.	SAFETY REVIEW OF RESEARCH REACTORS	• INT/9/152	34,200	36,000	-
5.	SAFETY UPGRADING OF WWR-K RESEARCH REACTOR	• KAZ/9/004	67,600	86,350	18,900
6.	IMPROVING THE SAFETY OF A RESEARCH REACTOR	• ZAI/9/006	45,700	37,350	-
		SUB-TOTAL	306,600	294,350	18,900
I.5	**NUCLEAR SAFETY ASSESSMENT PRACTICES**				
1.	SEVERE ACCIDENT SIMULATOR FOR KOZLODUY NPP	• BUL/9/017	87,600	89,700	-
2.	SEVERE ACCIDENT SIMULATOR FOR DUKOVANY NPP	• CZR/9/006	87,600	89,700	-
		SUB-TOTAL	175,200	179,400	-
I.6	**SAFETY APPROACHES TO FUTURE NUCLEAR POWER PLANTS**				
1.	RESEARCH REACTOR SAFETY AND NPP SITE ANALYSIS	MOR/9/010	11,400	-	-
I.7	**SAFETY REASSESSMENT OF NUCLEAR POWER PLANTS**				
1.	LICENCING AND OPERATIONAL SAFETY OF NUCLEAR REACTORS	BRA/9/043	31,200	105,000	-
2.	NUCLEAR POWER PLANT SAFETY ASSESSMENT	CUB/9/008	61,900	32,350	-
3.	PSA FOR CHASMA NUCLEAR POWER PROJECT (PHASE II)	• PAK/9/019	54,000	56,700	-
		SUB-TOTAL	147,100	194,050	-

S.3 TECHNICAL CO-OPERATION SERVICING AND CO-OPERATION

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
1.	MANPOWER DEVELOPMENT	ARG/0/008	99,300	103,950	-
2.	MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	• BGD/0/005	116,500	133,450	-
3.	MANPOWER DEVELOPMENT	BRA/0/012	114,300	154,050	-
4.	MANPOWER DEVELOPMENT	CHI/0/010	33,000	103,500	-
5.	MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	• CPR/0/007	171,300	225,750	-
6.	MANPOWER DEVELOPMENT	CUB/0/005	92,400	96,600	-
7.	MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	• INS/0/014	210,600	255,000	-
8.	PRE-PROJECT ASSISTANCE	INT/0/048	229,800	410,000	-
9.	COUNTRY PROGRAMME REVIEW	INT/0/053	286,800	494,000	-
10.	TECHNICAL CO-OPERATION BETWEEN DEVELOPING COUNTRIES	• INT/0/060	65,400	92,700	-
11.	SUPPORT TO NUCLEAR TECHNOLOGY	• KEN/0/007	83,000	89,000	-
12.	MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	MAL/0/010	116,700	139,500	-
13.	MANPOWER DEVELOPMENT	MEX/0/010	70,800	195,900	-
14.	MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	• MON/0/006	39,700	61,750	-
15.	MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	MYA/0/004	82,400	120,500	-
16.	MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	• PAK/0/007	177,600	220,500	-
17.	MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	• PHI/0/010	112,000	170,200	-
18.	PROJECT FORMULATION MEETINGS (AFRA XIII)	• RAF/0/010	57,000	48,000	-
19.	MANPOWER DEVELOPMENT	• RAF/0/011	1,081,200	1,172,100	-
20.	INSTITUTIONAL SUPPORT FOR LEAST DEVELOPED COUNTRIES	• RAF/0/012	138,800	187,500	-
21.	DEVELOPMENT OF TCDC IN ASIA AND THE PACIFIC (RCA)	RAS/0/015	98,400	107,000	-
22.	MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	• RAW/0/004	377,400	393,600	-
23.	MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	• RER/0/013	606,800	590,200	-
24.	NUCLEAR TECHNOLOGY SUPPORT	• RLA/0/016	696,000	862,000	-
25.	MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	• ROK/0/008	138,600	186,600	-
26.	UPGRADING NPP PERSONNEL TRAINING PROGRAMMES	• SLR/0/003	139,100	202,250	45,200
27.	MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	• SRL/0/005	115,300	120,250	-
28.	WORKSHOP ON DESIGN, MANAGEMENT AND EVALUATION OF TC PROJECTS	• SRL/0/006	21,400	-	-
29.	MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	THA/0/003	161,100	186,000	-
30.	MANPOWER DEVELOPMENT AND NUCLEAR TECHNOLOGY SUPPORT	• VIE/0/008	115,400	120,500	-
		SUB-TOTAL	5,848,100	7,242,350	45,200

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
S.5	**SPECIALIZED SERVICE ACTIVITIES**				
1.	ESTABLISHMENT OF A NATIONAL INIS CENTRE	* BYE/0/002	54,700	29,900	-
2.	NATIONAL INIS CENTRE	* LEB/0/004	39,000	42,950	-
3.	NUCLEAR INFORMATION SYSTEM (RCA)	RAS/0/019	11,400	62,000	-
4.	ESTABLISHING NATIONAL AND REGIONAL INIS CAPABILITIES	* RAW/0/003	47,800	47,000	32,600
5.	ESTABLISHING INIS CAPABILITIES IN THE NIS	* RER/0/011	152,800	125,750	65,200
		SUB-TOTAL	305,700	307,600	97,800
X.0	**COMPARATIVE ASSESSMENT OF NUCLEAR POWER AND OTHER ENERGY SOURCES**				
1.	ECONOMIC AND ENVIRONMENTAL IMPACT OF VARIOUS ENERGY OPTIONS	* POL/0/004	23,700	30,900	-
2.	STUDY OF ENERGY OPTIONS USING IAEA PLANNING METHODOLOGIES	* RAW/0/002	36,400	42,000	47,600
		SUB-TOTAL	60,100	72,900	47,600
	Operational projects		**42,412,560**	**44,018,840**	**15,369,910**

	Agency Subprogramme and TC Project Title	Project code -	1995 US$	1996 US$	Future years US$
A.1	**NUCLEAR POWER PLANNING AND IMPLEMENTATION**				
1.	NUCLEAR POWER PLANNING (RCA)	* RAS/0/021 g/	62,600	79,200	-
2.	DESALINATION USING NUCLEAR ENERGY	* RAW/4/003 g/	153,400	162,400	-
3.	SUPPORT OF CERNAVODA TRAINING CENTRE	ROM/0/004 g/	50,000	-	-
		SUB-TOTAL	266,000	241,600	-
A.2	**ASSESSMENT AND IMPROVEMENT OF NUCLEAR POWER PLANT PERFORMANCE**				
1.	STUDY OF FACTORS LIMITING REACTOR MATERIALS LIFETIME	* ARG/4/083 g/	139,100	109,700	84,975
2.	QUALITY ASURANCE FOR NUCLEAR POWER PLANTS	BUL/4/004 g/	180,000	200,000	-
3.	IMPROVING NUCLEAR POWER PLANT OPERATION MANAGEMENT	* RER/4/011 g/	-	-	433,950
4.	TRAINING FOR SAFE OPERATION AND MANAGEMENT OF NPPS	* UKR/4/003 g/	90,400	249,200	111,600
		SUB-TOTAL	409,500	558,900	630,525
A.3	**ADVANCED REACTOR DEVELOPMENTS AND APPLICATIONS**				
1.	TECHNOLOGY FOR HEAT AND RADIATION RESISTANT MATERIALS	* KAZ/4/002 g/	91,500	93,700	55,550
B.1	**RAW MATERIALS FOR REACTOR FUELS**				
1.	ENVIRONMENTAL MONITORING AND URANIUM EXPLORATION	POR/3/011 g/	39,400	29,500	-
B.2	**REACTOR FUEL TECHNOLOGY AND PERFORMANCE**				
1.	IRRADIATION BEHAVIOUR OF NON-METALLIC MATERIALS IN WWERS	* CZR/4/006 g/	26,600	23,450	-

	Agency Subprogramme and TC Project Title	Project code		1995 US$	1996 US$	Future years US$
2.	NUCLEAR FUEL MODELLING FOR WWER TYPE REACTORS	* RER/4/012	a/	245,000	-	-
		SUB-TOTAL		271,600	23,450	-
B.3	**SPENT FUEL MANAGEMENT, TECHNOLOGY AND SAFETY**					
1.	DESIGN OF INTERIM STORAGE FOR SPENT NUCLEAR FUEL	* RER/9/037	a/	75,000	75,000	-
C.1	**HANDLING, TREATMENT, CONDITIONING AND STORAGE OF RADIOACTIVE WASTES**					
1.	ESTABLISHING A RADIOACTIVE WASTE MANAGEMENT SYSTEM	* ARM/9/006	a/	45,110	53,900	63,950
C.4	**RADIOLOGICAL AND ENVIRONMENTAL ASPECTS OF WASTE MANAGEMENT**					
1.	MARINE ENVIRONMENT MONITORING ALONG THE ALGERIAN COAST	* ALG/2/006	a/	92,600	116,400	63,950
2.	MEASUREMENT OF MARINE CONTAMINATION AND TRANSPORT PHENOMENA	* RAS/8/073	a/	50,400	50,600	-
		SUB-TOTAL		143,000	167,000	63,950
C.5	**WASTE MANAGEMENT PLANNING AND INFRASTRUCTURE**					
1.	UPGRADING WASTE MANAGEMENT INFRASTRUCTURE **(MP)**	INT/9/144	a/	117,400	189,250	373,400
2.	IMPROVING RADIATION SAFETY OF CNESTEN	* MOR/9/011	a/	-	143,900	178,700
3.	GEOCHEMICAL MAPPING OF NATURAL RADIOACTIVTY	* SLO/9/008	a/	74,600	3,450	-
4.	INFRASTRUCTURE FOR TREATMENT & MANAGEMENT OF RADWASTE	* VIE/9/007	a/	95,000	93,900	-
		SUB-TOTAL		287,000	430,500	552,100

	Agency Subprogramme and TC Project Title	Project code -		1995 US$	1996 US$	Future years US$
D.1	**SOIL FERTILITY, IRRIGATION AND CROP PRODUCTION**					
1.	SOIL FERTILITY STUDIES IN THE PAMPA REGION	* ARG/5/008	a/	123,400	100,200	16,975
2.	NITROGEN FIXATION THROUGH RHIZOBIUM INNOCULATION	* GHA/5/024	a/	62,600	38,200	60,550
3.	FERTILIZER AND WATER MANAGEMENT	* NAM/5/004	a/	26,100	73,550	43,950
4.	NUTRIENTS AND WATER IN MILLET/LEGUME SYSTEMS	* NER/5/010	a/	85,100	93,900	-
5.	PLANT NUTRITION AND SOIL - WATER MANAGEMENT (ARCAL XXII)	* RLA/5/036	a/	250,100	248,400	488,800
		SUB-TOTAL		547,300	554,250	610,275
D.2	**PLANT BREEDING AND GENETICS**					
1.	MUTATION TECHNIQUES FOR IMPROVING WHEAT AND MAIZE	* ALB/5/006	a/	76,800	97,100	-
2.	IMPROVEMENT OF TEF THROUGH MUTATION BREEDING	* ETH/5/011	a/	158,300	81,200	59,150
3.	NUCL. TECHNIQUES IN PLANT BREEDING & BIOTECHNOLOGY (AFRA X)	RAF/5/029	a/	190,400	162,800	175,800
4.	INDUCED MUTATIONS AND BIOTECHNOLOGY (ARCAL XXI)	* RLA/5/034	a/	157,800	129,600	266,250
5.	EVALUATION OF CEREAL CROP MUTANTS (ARCAL XXIA)	* RLA/5/035	a/	313,100	323,450	655,540
		SUB-TOTAL		896,400	794,150	1,156,740
D.3	**ANIMAL PRODUCTION AND HEALTH**					
1.	NUTRITION AND PRODUCTION STUDIES IN LLAMAS	* ARG/5/007	a/	61,800	65,200	48,650
2.	ANIMAL HEALTH IN EASTERN BOLIVIA	* BOL/5/009	a/	39,200	30,100	-
3.	PRODUCTION OF DNA PROBES (PHASE II)	* COS/5/018	a/	59,100	103,550	-
4.	DIAGNOSIS AND CONTROL OF ANIMAL DISEASES	* EGY/5/022	a/	32,500	28,550	29,750
5.	IMMUNOASSAY TECHNIQUE FOR RINDERPEST DIAGNOSIS	IRQ/5/008	a/	85,000	31,400	33,350
6.	ELISA TECHNIQUE FOR MONITORING LIVESTOCK DISEASES	* LEB/5/012	a/	57,500	53,550	-
7.	DIAGNOSIS AND CONTROL OF LIVESTOCK DISEASES	* RAF/5/034	a/	148,200	182,400	-
8.	IMMUNOASSAY IN DIAGNOSIS AND CONTROL OF POULTRY DISEASES	* SRL/5/031	a/	47,500	54,250	-
9.	DIAGNOSIS AND CONTROL OF ANIMAL DISEASES	* SUD/5/024	a/	32,600	33,550	34,750
10.	IMMUNOASSAY TECHNIQUES FOR IMPROVING CATTLE PRODUCTION	* TUR/5/019	a/	44,200	36,650	-
11.	DIAGNOSIS AND CONTROL OF TRYPANOSOMIASIS AND RINDERPEST	* UGA/5/017	a/	86,000	57,100	-

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
12.	RIA AS A TOOL TO IMPROVE MILK PRODUCTION IN SHEEP	• URU/5/021 a/	52,600	57,550	42,125
		SUB-TOTAL	746,200	733,850	188,625
D.4	**INSECT AND PEST CONTROL**				
1.	FRUIT FLY ERADICATION IN THE SOUTHERN REGION **(MP)**	ARG/5/005 a/	147,800	105,800	-
2.	GENETIC SEXING TO CONTROL THE MEDFLY	• GUA/5/013 a/	87,600	73,700	-
3.	CONTROL OF TSETSE FLY AND TRYPANOSOMIASIS IN LAMBWE VALLEY	• KEN/5/020 a/	220,000	-	-
4.	TSETSE FLY ERADICATION ON ZANZIBAR ISLAND	URT/5/016 a/	1,780,800	1,599,600	-
		SUB-TOTAL	2,236,200	1,779,100	-
D.5	**AGROCHEMICALS AND RESIDUES**				
1.	FATE OF PESTICIDES IN CITRUS FRUIT AND THEIR BY-PRODUCTS	• ALG/5/016 a/	-	48,200	43,950
2.	STUDIES ON SOIL-TO-PLANT TRANSFER FACTORS OF RADIONUCLIDES	• BRA/5/031 a/	59,200	20,100	-
3.	PESTICIDE RESIDUES ANALYSIS FACILITY	• COS/5/020 a/	95,100	89,250	110,250
4.	ASSESSING PESTICIDE RESIDUES IN FOOD AND ENVIRONMENT	• PHI/5/025 a/	82,500	70,200	-
5.	PESTICIDE RESIDUES IN AGRICULTURAL PRODUCE & THE ENVIRONMENT	URT/5/014 a/	22,600	-	-
		SUB-TOTAL	259,400	227,750	154,200
D.6	**FOOD PRESERVATION**				
1.	FEASIBILITY STUDY ON FOOD IRRADIATION	• INS/5/025 a/	48,300	50,550	-
2.	STUDY ON FOOD IRRADIATION	MOR/5/018 a/	72,600	46,400	-
3.	PUBLIC ACCEPTANCE AND TRADE IN IRRADIATED FOOD (RCA)	• RAS/0/022 a/	143,600	250,800	-
4.	PROMOTION OF IRRADIATION FOR FOOD PRESERVATION	• RAW/5/003 a/	62,800	69,600	-
5.	FOOD IRRADIATION PILOT PLANT	TUN/5/013 a/	225,200	113,200	-
		SUB-TOTAL	552,500	530,550	-

	Agency Subprogramme and TC Project Title	Project code -		1995 US$	1996 US$	Future years US$

E.1 NUCLEAR MEDICINE

	Agency Subprogramme and TC Project Title	Project code		1995 US$	1996 US$	Future years US$
1.	EXTENDING NUCLEAR TECHNIQUES IN MEDICINE	* ARM/6/002	a/	85,000	97,100	-
2.	IMPROVING NUCLEAR MEDICINE SERVICES	* BGD/6/012	a/	238,700	130,500	-
3.	RIA FOR DIAGNOSIS OF CHAGAS' DISEASE (PHASE II)	* CHI/6/015	a/	91,600	-	-
4.	UPGRADING OF RADIOIMMUNOASSAY FACILITIES	* MON/6/007	a/	57,400	58,900	-
5.	UPGRADING OF NUCLEAR MEDICINE SERVICES IN MONGOLIA	* MON/6/008	a/	105,800	67,000	-
6.	LOCAL PREPARATION OF RADIOIMMUNOASSAY REAGENTS (AFRA V)	RAF/6/007	a/	100,000	100,000	-
7.	STRENGTHENING NUCLEAR MEDICINE IN RCA MEMBER STATES	RAS/6/022	a/	122,000	-	-
8.	QUALITY ASSURANCE IN NUCLEAR MEDICINE.	RLA/6/020	a/	151,500	67,500	249,750
9.	PRODUCTION OF BULK REAGENTS FOR IMMUNOASSAYS (PHASE II)	* SUD/4/005	a/	78,280	43,900	-
10.	UPGRADING SPECT TOMOGRAPHY FOR BRAIN STUDIES	* URU/6/021	a/	87,600	13,200	-
11.	UPGRADING NUCLEAR MEDICINE FACILITY WITH GAMMA CAMERA	* ZAM/6/007	a/	236,800	55,800	-
		SUB-TOTAL		1,354,680	633,900	249,750

E.2 APPLIED RADIATION BIOLOGY AND RADIOTHERAPY

	Agency Subprogramme and TC Project Title	Project code		1995 US$	1996 US$	Future years US$
1.	RADIOTHERAPY SOURCES AND BRACHYTHERAPY FOR CANCER TREATMENT	* BRA/4/044	a/	208,720	19,590	-
2.	NUCLEAR TECHNIQUES IN TRANSPLANT HISTOCOMPATIBILITY STUDIES	* COS/6/010	a/	61,800	20,200	-
3.	ESTABLISHMENT OF BRACHYTHERAPY SERVICES	* DOM/6/002	a/	240,000	-	-
4.	NATIONAL RADIOTHERAPY AND NUCLEAR MEDICINE NETWORK **(MP)**	GHA/6/009	a/	577,800	802,800	1,245,750
5.	ESTABLISHMENT OF A CENTRAL RADIOTHERAPY UNIT	* NAM/6/003	a/	777,100	282,700	351,975
6.	UPGRADING BRACHYTHERAPY SERVICES FOR CANCER TREATMENT	* PHI/6/017	a/	186,300	76,400	-
7.	IMPROVEMENT OF CLINICAL RADIOTHERAPY (AFRA XII)	* RAF/6/014	a/	755,600	442,400	367,650
8.	IMPROVEMENT OF QUALITY OF RADIOTHERAPY PRACTICE (ARCAL XXIV)	* RLA/6/029	a/	235,300	240,250	206,100
9.	IMPROVEMENT OF BRACHYTHERAPY SERVICES	* SRL/6/021	a/	501,600	76,400	-
10.	STRENGTHENING BRACHYTHERAPY FACILITIES	* TUN/6/006	a/	251,000	-	-
11.	GAMMA IRRADIATION FOR TISSUE STERILIZATION	* TUR/7/006	a/	125,800	35,000	-
12.	RADIOTHERAPY FACILITY AND THERAPY DOSIMETRY SYSTEM	URT/6/007	a/	317,500	107,450	-
		SUB-TOTAL		4,238,520	2,103,190	2,171,475

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
E.3	**DOSIMETRY**				
1.	SECONDARY STANDARDS DOSIMETRY LABORATORY UPGRADING	• IRA/1/008 a/	-	83,350	41,150
2.	NATIONAL PROGRAMME OF TRAINING IN MEDICAL PHYSICS **(MP)**	• MEX/6/005 a/	198,200	240,000	-
3.	SECONDARY STANDARDS FOR NEUTRON AND ENVIRONMENTAL DOSIMETRY	• PAK/1/023 a/	62,500	96,950	-
4.	ESTABLISHMENT OF MOLECULAR RADIATION CYTOGENETICS LABORATORY	• TUR/6/009 a/	132,400	140,500	-
		SUB-TOTAL	393,100	560,800	41,150
E.4	**NUTRITIONAL AND HEALTH-RELATED ENVIRONMENTAL STUDIES**				
1.	USE OF ISOTOPES IN ASSESSING MICRONUTRIENT DEFICIENCIES	• GHA/7/002 a/	116,000	67,300	26,975
2.	UPGRADING OF WHOLE BODY COUNTER	GRE/9/017 a/	91,000	39,100	-
3.	NUCLEAR TECHNIQUES FOR ENVIRONMENTAL CONTROL	• PER/9/020 a/	82,100	120,500	-
4.	ENVIRONMENTAL STUDIES THROUGH BIOMONITORING (ARCAL XXV)	• RLA/2/008 a/	100,800	143,400	228,100
		SUB-TOTAL	389,900	370,300	255,075
F.1	**INDUSTRIAL APPLICATIONS**				
1.	INDUSTRIAL APPLICATION OF RADIOISOTOPES	ALG/8/008 a/	62,600	76,400	-
2.	NON-DESTRUCTIVE TESTING TECHNIQUES	• KEN/8/006 a/	58,600	74,050	-
3.	ESTABLISHING A NATIONAL NON-DESTRUCTIVE TESTING CENTRE	• MAK/8/003 a/	88,900	96,950	87,775
4.	ESTABLISHMENT OF A NON-DESTRUCTIVE TESTING LABORATORY	MOR/8/006 a/	42,600	-	-
5.	ELECTRON ACCELERATOR FOR ECOLOGICAL PURPOSES	POL/8/008 a/	75,900	131,650	43,600
6.	ELECTRON BEAM TECHNOLOGY FOR FLUE GAS PURIFICATION PHASE III	POL/8/013 a/	239,900	239,200	-
7.	INDUSTRIAL SCALE DEMO PLANT FOR EB PURIFICATION OF FLUE GAS **(MP)**	POL/8/014 a/	1,000,000	1,600,000	2,600,000
8.	NON-DESTRUCTIVE TESTING TECHNIQUES (AFRA VI)	RAF/8/017 a/	175,200	59,600	73,950
9.	ISOTOPES AND RADIATION IN INDUSTRY AND THE ENVIRONMENT (RCA)	RAS/8/069 a/	154,500	-	-
10.	ISOTOPES AND RADIATION IN INDUSTRY AND THE ENVIRONMENT (RCA)	RAS/8/070 a/	328,800	351,600	-
11.	PROMOTION OF RADIATION PROCESSING TECHNIQUES IN INDUSTRY	• RAW/8/003 a/	75,400	82,800	-

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
12.	INDUSTRIAL APPLICATION OF NUCLEAR TECHNOLOGY (ARCAL XVI)	RLA/8/016 g/	107,800	109,600	-
		SUB-TOTAL	2,410,200	2,821,850	2,805,325

F.2 DEVELOPMENT OF WATER RESOURCES

1.	DEVELOPMENT OF DATING TECHNIQUES	ALG/8/007 g/	72,500	41,650	-
2.	ISOTOPIC ANALYSIS IN GROUNDWATER HYDROLOGY	* BGD/8/013 g/	112,500	149,950	-
3.	EVALUATION OF WATER RESOURCES MONITORING	* CZR/8/002 g/	16,800	2,200	17,025
4.	EVALUATION OF COASTAL AQUIFERS	* DOM/8/007 g/	38,900	39,800	-
5.	ESTABLISHMENT OF A CARBON-14 AND TRITIUM LABORATORY	EGY/8/009 g/	91,800	61,650	45,000
6.	ISOTOPE HYDROLOGY IN GEOTHERMAL FIELDS	ELS/8/004 g/	292,600	-	-
7.	ISOTOPE & TRACER TECHNIQUES FOR WATER RESOURCES ASSESSMENT	* MAK/8/002 g/	98,200	103,300	-
8.	NUCLEAR DATING TECHNIQUES	MOR/8/005 g/	75,900	23,200	-
9.	NUCLEAR GAUGING OF HARBOUR SEDIMENTATION	* MOR/8/007 g/	118,400	118,550	43,950
10.	ISOTOPE-AIDED STUDIES OF THE SOKOTO-RIMA HYDROLOGICAL BASIN	* NIR/8/004 g/	103,800	51,700	-
11.	STUDY OF WATER LEVEL FLUCTUATIONS IN CASPIAN SEA	* RAW/8/005 g/	250,000	500,000	-
12.	MARINE ENVIRONMENTAL ASSESSMENT OF THE BLACK SEA REGION	* RER/8/005 g/	517,800	506,400	275,550
13.	STUDY OF SEDIMENTATION RATES USING CS-137 AND PB-210	* VIE/8/011 g/	55,500	52,950	-
		SUB-TOTAL	1,844,700	1,651,350	381,525

G.1 NUCLEAR AND ATOMIC DATA FOR APPLICATIONS

1.	TRAINING IN REACTOR PHYSICS APPLICATIONS	* JOR/4/003 g/	32,600	13,200	-
2.	APPLICATIONS OF X-RAY ANALYSIS	PHI/8/017 g/	65,700	-	-
3.	ORGANIZATION OF UKRANIAN NUCLEAR DATA CENTRE	* UKR/0/003 g/	78,800	91,775	-
		SUB-TOTAL	177,100	104,975	-

	Agency Subprogramme and TC Project Title	Project code		1995 US$	1996 US$	Future years US$
G.2	**NUCLEAR INSTRUMENTATION**					
1.	ESTABLISHMENT OF RADIATION MONITORING STATIONS	BYE/9/003	a/	142,400	374,250	666,890
2.	UPGRADING UNIVERSITY TRAINING COURSES IN REACTOR PHYSICS	• CZR/0/003	a/	36,300	63,550	-
3.	STRENGTHENING NUCLEAR INSTRUMENTATION AND MAINTENANCE	• MON/4/003	a/	41,200	36,950	-
4.	NUCLEAR INSTRUMENTATION (AFRA IV)	RAF/4/009	a/	188,200	212,400	173,700
5.	SEMICONDUCTOR DOSIMETERS FOR MIXED RADIATION FIELDS	• UKR/9/009	a/	17,250	5,175	-
		SUB-TOTAL		425,350	692,325	840,590
G.4	**UTILIZATION OF RESEARCH REACTORS AND PARTICLE ACCELERATORS**					
1.	MODERNIZATION OF RESEARCH REACTOR IAN-RI	COL/4/013	a/	175,200	-	-
2.	UPGRADING NUCLEAR ANALYTICAL SERVICES	• CRO/1/002	a/	62,500	50,350	-
3.	IMROVEMENT OF CYCLOTRON PARAMETERS	• HUN/4/013	a/	116,600	106,900	-
4.	ESTABLISHING A REACTOR FACILITY	• NIR/1/009	a/	350,000	-	-
5.	NUCLEAR TECHNIQUES IN MATERIALS ANALYSIS	PER/1/012	a/	305,100	23,550	-
		SUB-TOTAL		1,009,400	180,800	-
G.5	**CHEMISTRY**					
1.	PRODUCTION OF IODINE 123 VIA XENON TARGET	BRA/4/043	a/	72,600	107,350	-
2.	NEUTRON ACTIVATION REFERENCE LAB FOR ENVIRONMENTAL CONTROL	• CZR/2/002	a/	85,100	119,950	120,790
3	ENVIRONMENTAL IMPACT OF HYDROCARBON EXTRACTION IN CUYABENO	• ECU/8/017	a/	100,100	70,150	-
4.	PRODUCTION OF THERAPEUTIC RADIOPHARMACEUTICALS	• GRE/2/026	a/	76,100	-	-
5.	NEUTRON ACTIVATION ANALYSIS LABORATORY	• KAZ/2/002	a/	71,500	80,500	65,550
6.	ESTABLISHMENT OF A NUCLEAR ANALYTICAL LABORATORY	• MOR/2/003	a/	67,500	63,550	33,950
7.	RADIOISOTOPE PRODUCTION AND LABELLING	MOR/4/010	a/	105,200	-	-
8.	QUALITY CONTROL OF RADIOPHARMACEUTICALS	• POL/2/013	a/	60,000	30,000	-
9.	TRAINING COURSE ON ENVIRONMENTAL MONITORING	• THA/8/012	a/	140,740	-	-
		SUB-TOTAL		778,840	471,500	220,290

	Agency Subprogramme and TC Project Title	Project code -	1995 US$	1996 US$	Future years US$
H.0	**RADIATION SAFETY**				
1.	UPGRADING RADIATION PROTECTION INFRASTRUCTURE **(MP)**	INT/9/143 a/	300,000	300,000	600,000
2.	STRENGTHENING OF RADIATION PROTECTION INFRASTRUCTURES (RCA)	RAS/9/006 a/	176,500	168,800	-
		SUB-TOTAL	476,500	468,800	600,000
H.1	**STRENGTHENING OF RADIATION SAFETY**				
1.	PERSONNEL DOSIMETRY, REGULATIONS, LICENSING AND INSPECTION	• EGY/9/031 a/	37,800	19,800	-
H.3	**RADIATION PROTECTION OF THE PUBLIC AND THE ENVIRONMENT**				
1.	ENVIRONMENTAL RADIOACTIVITY LABORATORY & MONITORING NETWORK	• ALB/9/003 a/	49,900	60,350	-
2.	ENVIRONMENTAL RADIATION MONITORING AROUND THE NPP	• ARM/9/005 a/	82,500	83,900	43,950
3.	ATMOSPHERIC DISPERSION STUDIES	• EGY/9/033 a/	57,400	66,750	-
4.	CONTROL OF EXPOSURE TO RADON, THORON AND THEIR PROGENIES	• ROM/9/018 a/	70,200	-	-
5.	EARLY WARNING SYSTEM FOR RADIOLOGICAL EMERGENCIES	SLO/9/005 a/	184,000	130,000	-
6.	DESIGN AND OPERATION OF A RADON CHAMBER	• SLO/9/009 a/	112,400	115,150	25,000
7.	NUCLEAR TECHNIQUES IN MONITORING INDUSTRIAL POLLUTION	• SRL/9/008 a/	60,200	41,400	-
		SUB-TOTAL	616,600	497,550	68,950
I.1	**STRENGTHENING BASIC NUCLEAR SAFETY**				
1.	SAFETY CODES AND STANDARDS FOR NUCLEAR POWER PLANTS	• CPR/9/021 a/	113,400	118,800	-
2.	STRENGTHENING THE NUCLEAR SAFETY REGULATORY BODY **(MP)**	SLR/9/005 a/	95,400	99,900	-
3.	DEVELOPMENT OF NUCLEAR REGULATORY ORGANIZATION	• THA/0/005 a/	42,000	63,750	-
		SUB-TOTAL	250,800	282,450	-

	Agency Subprogramme and TC Project Title	Project code	1995 US$	1996 US$	Future years US$
I.3	**OPERATIONAL SAFETY OF NUCLEAR POWER PLANTS**				
1.	STRENGTHENING TRAINING FOR OPERATIONAL SAFETY AT PAKS NPP **(MP)**	HUN/9/019 a/	75,600	79,200	-
2.	ENHANCEMENT OF OPERATIONAL SAFETY AT KRSKO NPP	SLO/9/004 a/	-	66,000	-
3.	ADVANCED DIAGNOSTICS SURVEILLANCE SYSTEMS FOR WWER	• SLR/9/007 a/	75,100	115,000	20,950
		SUB-TOTAL	150,700	260,200	20,950
I.5	**NUCLEAR SAFETY ASSESSMENT PRACTICES**				
1.	SEVERE ACCIDENT SIMULATOR FOR NUCLEAR POWER PLANTS	• UKR/9/008 a/	82,400	83,900	-
I.7	**SAFETY REASSESSMENT OF NUCLEAR POWER PLANTS**				
1.	REVIEW OF THE PSA PROGRAMME OF TEMELIN NPP	• CZR/9/007 a/	63,000	-	-
J.2	**SAFEGUARDS SUPPORT AND DEVELOPMENT**				
1.	UPGRADING OF SAFEGUARDS VERIFICATION MEASUREMENTS	• BRA/0/014 a/	35,500	78,410	-
2.	ESTABLISHMENT OF A NUCLEAR MATERIAL SAFEGUARDS LABORATORY	• EGY/0/014 a/	125,800	80,500	-
		SUB-TOTAL	161,300	158,640	-
	Footnote-a/ projects		21,727,000	17,655,530	11,130,995

ANNEX 2

VOLUNTARY CONTRIBUTIONS TO THE TECHNICAL ASSISTANCE AND CO-OPERATION FUND FOR 1994

AS AT 31 DECEMBER 1994

	1994						Over payments
	Base rate %	Target US$	Pledged US$	Paid US$	Outstanding US$		US$
Afghanistan	0.01	5,850	-	-	-		
Albania	0.01	5,850	5,850	-	5,850		
Algeria	0.16	93,600	-	-	-		
Argentina	0.58	339,300	303,030	303,030	-		
Australia	1.55	906,750	878,378	878,378	-		
Austria	0.77	450,450	450,450	450,450	-		
Bangladesh	0.01	5,850	5,850	5,850	-		
Belarus	0.49	286,650	31,481	-	31,481		
Belgium	1.09	637,650	-	-	-		
Bolivia	0.01	5,850	-	-	-		
Brazil	1.63	953,550	300,000	-	300,000		
Bulgaria	0.13	76,050	10,000	550	9,450		
Cambodia	0.01	5,850	-	-	-		
Cameroon	0.01	5,850	-	-	-		
Canada	3.19	1,866,150	1,370,370	1,370,370	-		
Chile	0.08	46,800	46,800	-	46,800		
China	0.79	462,150	462,150	462,150	-		
Colombia	0.13	76,050	50,000	50,000	-		
Costa Rica	0.01	5,850	-	-	-		
Cote d'Ivoire	0.02	11,700	11,700	11,700	-		
Croatia	0.13	76,050	8,000	-	8,000		
Cuba	0.09	52,650	52,650	52,650	-		
Cyprus	0.02	11,700	-	-	-		
Democratic People's Republic of Korea a/	0.05	29,250	29,250	-	29,250		
Denmark	0.67	391,950	391,950	391,950	-		
Dominican Republic	0.02	11,700	-	-	-		
Ecuador	0.03	17,550	-	-	-		
Egypt	0.07	40,950	398	398	-		
El Salvador	0.01	5,850	-	-	-		
Estonia	0.07	40,950	-	-	-		
Ethiopia	0.01	5,850	-	-	-		
Finland	0.58	339,300	339,300	339,300	-		
France	6.15	3,597,750	3,597,750	-	3,597,750		
Gabon	0.02	11,700	-	-	-		
Germany	9.15	5,352,750	4,611,405	4,611,405	-		
Ghana	0.01	5,850	5,000	-	5,000		
Greece	0.36	210,600	-	-	-		
Guatemala	0.02	11,700	-	-	-		
Haiti	0.01	5,850	-	-	-		
Holy See	0.01	5,850	-	-	-		
Hungary	0.19	111,150	111,150	111,150	-		24,086
Iceland	0.03	17,550	17,550	17,550	-		
India	0.37	216,450	216,450	216,450	-		
Indonesia	0.16	93,600	50,000	50,000	-		
Iran, Islamic Republic of	0.79	462,150	20,000	20,000	-		
Iraq	0.13	76,050	-	-	-		
Ireland	0.19	111,150	50,000	50,000	-		
Israel	0.24	140,400	-	-	-		
Italy	4.40	2,574,000	-	-	-		
Jamaica	0.01	5,850	-	-	-		
Japan	12.76	7,464,600	7,464,600	7,464,600	-		
Jordan	0.01	5,850	-	-	-		
Kenya	0.01	5,850	-	-	-		
Korea, Republic of	0.71	415,350	257,400	257,400	-		
Kuwait	0.26	152,100	-	-	-		
Lebanon	0.01	5,850	-	-	-		
Liberia	0.01	5,850	-	-	-		
Libyan Arab Jamahiriya	0.25	146,250	-	-	-		
Liechtenstein	0.01	5,850	6,000	6,000	-		
Luxembourg	0.06	35,100	-	-	-		
Madagascar	0.01	5,850	-	-	-		
Maleysia	0.12	70,200	70,200	70,200	-		
Mali	0.01	5,850	-	-	-		
Mauritius	0.01	5,850	-	-	-		
Mexico	0.90	526,500	-	-	-		
Monaco	0.01	5,850	-	-	-		
Mongolia	0.01	5,850	-	-	-		
Morocco	0.03	17,550	17,550	17,550	-		
Myanmar	0.01	5,850	-	-	-		
Namibia	0.01	5,850	1,000	-	1,000		

VOLUNTARY CONTRIBUTIONS TO THE TECHNICAL ASSISTANCE AND CO-OPERATION FUND FOR 1994

AS AT 31 DECEMBER 1994

	1994					Over payments
	Base rate %	Target US$	Pledged US$	Paid US$	Outstanding US$	US$
Netherlands	1.54	900,900	900,900	900,900	-	
New Zealand	0.25	146,250	-	-	-	
Nicaragua	0.01	5,850	-	-	-	
Niger	0.01	5,850	-	-	-	
Nigeria	0.21	122,850	-	-	-	
Norway	0.56	327,600	327,600	327,600	-	
Pakistan	0.06	35,100	35,100	35,100	-	506
Panama	0.02	11,700	-	-	-	
Paraguay	0.02	11,700	-	-	-	
Peru	0.06	35,100	-	-	-	
Philippines	0.07	40,950	40,950	40,950	-	
Poland	0.48	280,800	280,800	280,800	-	30,498
Portugal	0.21	122,850	-	-	-	
Qatar	0.05	29,250	-	-	-	
Romania	0.17	99,450	99,450	-	99,450	
Russian Federation	6.88	4,024,800	462,416	462,416	-	
Saudi Arabia	0.98	573,300	-	-	-	
Senegal	0.01	5,850	-	-	-	
Sierra Leone	0.01	5,850	-	-	-	
Singapore	0.12	70,200	-	-	-	
Slovenia	0.09	52,650	52,650	36,539	16,111	
South Africa	0.42	245,700	-	-	-	
Spain	2.03	1,187,550	185,985	185,985	-	
Sri Lanka	0.01	5,850	5,000	5,000	-	
Sudan	0.01	5,850	-	-	-	
Sweden	1.14	666,900	666,900	666,900	-	
Switzerland	1.19	696,150	696,150	696,150	-	
Syrian Arab Republic	0.04	23,400	2,000	2,000	-	
Thailand	0.11	64,350	64,350	64,350	-	
Tunisia	0.03	17,550	-	-	-	
Turkey	0.28	163,800	163,800	163,800	-	
Uganda	0.01	5,850	-	-	-	
Ukraine	1.92	1,123,200	-	-	-	
United Arab Emirates	0.22	128,700	-	-	-	
United Kingdom of Great Britain and Northern Ireland	5.15	3,012,750	2,909,750	2,909,750	-	
United Republic of Tanzania	0.01	5,850	2,000	-	2,000	
United States of America	25.00	14,625,000	13,936,865	13,936,865	-	
Uruguay	0.04	23,400	15,000	-	15,000	
Venezuela	0.50	292,500	-	-	-	
Viet Nam	0.01	5,850	5,850	5,850	-	
Yugoslavia	0.16	93,600	-	-	-	
Zaire	0.01	5,850	-	-	-	
Zambia	0.01	5,850	-	-	-	
Zimbabwe	0.01	5,850	-	-	-	
Sub-total	100.00	58,500,000	42,097,178	37,930,036	4,167,142	[illegible]
New Members:						
Armenia b/	0.13	76,050	-	-	-	
Czech Republic c/	0.42	245,700	245,700	245,700	-	
Kazakstan d/	0.35	204,750	-	-	-	
Lithuania e/	0.15	87,750	-	-	-	
Marshall Islands f/	0.01	5,850	-	-	-	
Slovak Republic c/	0.13	76,050	76,050	76,050	-	631
The Former Yugoslav Republic of Macedonia g/	0.02	11,700	-	-	-	
Uzbekistan h/	0.26	152,100	-	-	-	
Yemen, Republic of i/	0.01	5,850	-	-	-	
TOTAL	101.48	59,365,800	42,418,928	38,251,786	4,167,142	[illegible]

a/ The Democratic People's Republic of Korea withdrew from the Agency on 13 June 1994.

b/ Armenia became a Member of the Agency on 27 September 1993.

c/ The Czech Republic and the Slovak Republic became Members of the Agency on 27 September 1993.

d/ Kazakstan became a Member of the Agency on 14 February 1994.

e/ Lithuania became a Member of the Agency on 18 November 1993.

f/ Marshall Islands became a Member of the Agency on 26 January 1994.

g/ The Former Yugoslav Republic of Macedonia became a Member of the Agency on 25 February 1994.

h/ Uzbekistan became a Member of the Agency on 26 January 1994.

i/ The Republic of Yemen became a Member of the Agency on 14 October 1994.

ANNEX 3

B

GOV/INF/708
7 September 1993

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International Atomic Energy Agency
BOARD OF GOVERNORS

For official use only

IAEA'S CONTRIBUTIONS TO "AGENDA 21"

1. It will be recalled that in September 1992 the Secretariat submitted in document GC(XXXVI)/INF/310 a report on the Agency's participation in and the outcome of the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil from 3 to 14 June 1992.

2. One of the major results of the Conference was the adoption, inter-alia, of "Agenda 21", which covers a wide range of issues under the broad concept of "sustainable development".

3. The General Assembly in its resolution 47/190 urged, inter alia, "...organizations and programmes of the United Nations system as well as other intergovernmental and non-governmental organizations to take the necessary action to give effective follow-up to ..., Agenda 21".

4. The attached paper describes areas where on-going IAEA activities directly support Agenda 21 and indicates areas where, if additional resources can be found, new initiatives could be undertaken.

5. The paper will be used as reference material in UNCED-follow-up activities.

6. The paper is distributed for information.

IAEA'S CONTRIBUTIONS TO "AGENDA 21"

1. Introduction

1.1. A substantial part of the programme of the International Atomic Energy Agency has as its objective the achievement of sustainable development, with special emphasis on capacity-building in its developing Member States. Promoting the safe development of nuclear energy as a non-CO2-emitting source of electric power and the environmentally sound management of radioactive wastes are areas where IAEA's competence is widely recognized. Less well known but even more important for the majority of IAEA Member States is the promotion of the safe use of nuclear techniques and radioisotopes in food and agriculture, health, hydrology, industry, pollution and climate investigations.

1.2. Some of the major global problems include the following: 70% of the world's soils suffer from salinity, aluminium toxicity, or other conditions that make them less suitable for efficient crop production; both desertification and deforestation are increasing; both human and livestock populations are growing and placing increasing pressure on finite resources of land and water; and human activities are changing the earth's atmosphere in ways that threaten global warming and destruction of the ozone shield. IAEA activities focus on contributing to solving problems such as these using nuclear techniques. Ensuring the maximum effectiveness of these techniques in supporting the objectives of Agenda 21 will require close co-operation with other UN agencies that have sectoral responsibilities. IAEA is thus working together with the UN and other agencies through the Inter-Agency Committee on Sustainable Development established by the Administrative Committee on Co-ordination (ACC).

1.3. Beyond its technical and regulatory programmes dealing with nuclear power, radioactive waste management and the use of radioisotopes and nuclear techniques, the IAEA also has responsibilities in verifying international agreements on the non-proliferation of nuclear weapons. While these activities are not addressed in this paper, the importance of limitation, control, and reduction of arms of mass destruction for the sustainable development of planet earth should not be underestimated.

1.4. The following paper describes areas where on-going IAEA activities can directly support Agenda 21 and indicates areas where, if additional resources can be found, new initiatives could be undertaken. Chapter headings correspond to the clusters of chapters of Agenda 21 which will be considered as the basis for the programme of work for the Commission on Sustainable Development.

2. Education, science, transfer of environmentally sound technologies, co-operation and capacity building

2.1. *On-going programme*:

2.1.1. IAEA's research and technical co-operation activities are geared toward helping Member States achieve self-reliance in nuclear science and technology. Approximately one-third of the total project resources planned for 1993 and 1994 (US$46 million) directly relate to Agenda 21.

2.1.2. The IAEA has its own laboratories in Seibersdorf and Monaco to back up these programmes and provide training. In addition, co-ordinated research programmes link national institutes in developing and industrialized countries.

2.2. *More could be done if:*

2.2.1. Many of the Agency's technical co-operation projects have been approved but not implemented because of lack of funds. If extrabudgetary resources could be found, these projects would assist recipient countries in implementing Agenda 21 (see Annex for list of such projects).

2.2.2. Developing countries may be able to benefit from UNDP's Capacity 21 initiative. Projects for strengthening infrastructures and for capacity-building in the area of radioactive waste management are being developed. The joint IAEA-UNDP co-operation in this area has the objective of developing "model projects" offering assistance which links a commitment of the host country with external funding (UNDP) and technical support provided by IAEA.

2.2.3. The Agency's laboratories in Seibersdorf and Monaco have unique research and analytical capabilities which could make an increased contribution to the international community if additional resources were available. In addition to its joint programme with FAO, IAEA is actively co-operating with UNEP, WHO and WMO in making maximum use of these facilities for the implementation of Agenda 21. IAEA laboratories carry out research and development, technology transfer and training.

2.2.4. The Global Environmental Facility (GEF), implemented by UNDP, UNEP and the World Bank, was set up in 1991 to assist developing countries in protecting the global environment, with priority objectives to:

(i) reduce greenhouse gases;
(ii) protect biodiversity;
(iii) protect international waters;
(iv) protect the ozone layer.

In the first three areas IAEA could assist developing countries in formulating projects that meet the GEF criteria and provide support in their implementation.

3. Decision-making structures

3.1. *On-going programme:*

3.1.1. In order to assure that health, environmental and safety issues are addressed as an integral part of social and economic development, a joint IAEA/UNIDO/UNEP/WHO project on risk assessment and management has produced a procedural guide and a manual for the classification and prioritization of risk. Case studies and training form an important part of this initiative which concentrates on large industrial areas with multiple risks.

3.1.2. To facilitate planning and implementation of sustainable strategies in the electricity sector of developing countries, a joint inter-agency project on data bases and methodologies is being carried out. This project will produce a set of computerized data bases on electricity-generating chains covering technical and economic parameters as well as health and environmental impacts; a software package for accessing, handling and processing the data; and a document on methodologies, models and tools for comparative assessment.

3.1.3. IAEA initiates and supports the conclusion of international legal instruments for the safe use of nuclear energy. It has also developed basic safety standards for radiation protection, regulations for the safe transport of nuclear material, and the international legal framework for civil liability for nuclear damage, physical protection of nuclear material, and early notification and assistance in the case of nuclear accidents or radiological emergencies.

3.1.4. IAEA is mandated by its Statute to establish, in collaboration with competent organs of the UN and its specialized agencies, standards of safety for protection of health. Under the Nuclear Safety Standards (NUSS) programme, the Agency has issued five codes of practice for nuclear power plant safety and a comprehensive set of fifty-five safety guides for implementation of the codes. Expert services, advisory missions and technical co-operation are provided to help assure high standards of safety.

3.1.5. In 1990 the IAEA adopted a Code of Practice on the International Transboundary Movement of Radioactive Waste (see Section 7 - Toxic chemicals and hazardous wastes).

3.1.6. Agenda 21 calls upon States to make efforts to conclude the on-going negotiations for a nuclear safety convention in the framework of the IAEA. The open-ended working group of experts preparing the convention has agreed that its main obligations would be based in large measure on the principles for regulation and management of safety and the operation of nuclear installations contained in the IAEA document "Safety Fundamentals". The convention would provide for an obligation of the parties to report on implementation of the convention and for a review mechanism established through a meeting of the contracting parties.

3.2. *More could be done if:*

3.2.1. The risk assessment and management project could be enhanced by additional funding and by its integration into national sustainable development plans. Co-ordination with other organizations should be increased.

3.2.2. A more comprehensive collection of data could be undertaken in a greater number of developing countries if additional funds were available for national efforts to establish country-specific data bases. Additional case studies could be undertaken to meet the need of developing countries for support in the design and implementation of sustainable strategies in the electricity sector.

3.2.3. The international legal framework for the safe development of nuclear energy is already well developed. However more assistance is required to developing countries for building their regulatory capacity and implementing the agreements to which they are parties.

3.2.4. IAEA and UNDP have launched a major initiative to improve radiation protection systems and nuclear safety networks in the newly independent States of the former Soviet Union. By determining where international assistance can best be focussed, it is hoped that funds can be raised from both governments and private industry.

4. Health, human settlements and fresh water

4.1. *On-going programme*:

4.1.2. Health

4.1.2.1. In addition to promoting nuclear techniques in medical diagnosis and therapy, IAEA collaborates with WHO and FAO in food preservation by irradiation, including the reduction of the incidence of food-borne parasites and pathogens. The use of irradiation offsets the use of chemicals that deplete ozone and leave residues in food of concern to health.

4.1.2.2. In co-operation with UNEP and WHO, work is being done on the comparative assessment of mutagenic and carcinogenic effects of low-level radiation and toxic chemicals.

4.1.2.3. The following programmes aim at the prevention of infectious disease and infestations using irradiation processes:

- sterilization of medical supplies and tissue grafts by irradiation
- radiation treatment of sewage sludge for safe use.

4.1.2.4. Also addressing health issues are projects concerning the use of nuclear and isotopic techniques in human nutrition and in environmental studies. In collaboration with UNEP, the Agency maintains a data base on biological and environmental reference materials for trace elements, radionuclides and microcontaminants. The Agency's laboratory at Seibersdorf develops analytical techniques, organizes inter-calibration exercises, instrument maintenance, and training of scientists and technicians.

4.1.3. Fresh water

4.1.3.1. The Agency's programme in the water sector comprises the following:

- development and application of isotope methods for assessment of water resources;
- water resources evaluation in arid and semi-arid regions (i.e. North Africa, Sahelian countries, Middle East);
- environmental investigations with isotope techniques (ground water pollution, water and pollutant dynamics in surface waters, flow and mass transport models, paleoclimatic studies);
- analytical and intercalibration services;
- development of soil management, cropping and irrigation practices that conserve the use of water.

Capacity building in the field of isotope hydrology is emphasized in 60 on-going technical co-operation projects with a total allocation of about US$3.5 million (bi-annual). These efforts are augmented by IAEA's own isotope hydrology laboratory which provides analytical and technical support. Co-ordinated research and training activities also promote isotope hydrology, in particular in arid and semi-arid regions.

4.1.3.2. Sea-water desalination.

Motivated by the growing need for fresh water in resource poor nations, the IAEA General Conference requested that a study be performed on the technical and economic viability of using nuclear energy for producing fresh water. The study has been undertaken and a report on the technical and economic aspects of potable water production through desalination of seawater by using nuclear energy and other means has been prepared and published. The main part of the report is devoted to evaluating the economic viability of seawater desalination using nuclear energy in comparison with fossil fuels. Relevant safety and institutional aspects are also discussed.

4.2. *More could be done if:*

4.2.1. In the health area, additional funding would allow more developing countries to benefit from nuclear techniques to improve nutrition and health. Closer co-operation with UNEP and the International Commission for Protection against Environmental Mutagens and Carcinogens (ICPEMC) would enhance IAEA efforts. In 1992 IAEA's General Conference called for increased efforts to transfer food irradiation technology to developing countries, in particular as the use of chemicals such as methyl bromide and other fumigants is being curtailed or will be phased out completely.

4.2.2. In the area of water resources, more effective collaboration should be increased with other agencies, for example through the FAO-led "international action programme on water and sustainable agricultural development" which is part of Agenda 21. The envisaged role of IAEA would be application of appropriate nuclear technologies in water resources assessment for agricultural development, study of source and mechanism of salinization, and effect of recycling of ground water in irrigation.

4.2.3. More could be done to assess the viability of specific desalination projects in Member States provided funding would be available for expert services to support national efforts.

5. Land, desertification, forests and biodiversity

5.1. *On-going programme*:

5.1.1. Sustainable development has been the guiding concept of the Joint FAO/IAEA Division since its establishment in 1964, Of particular relevance to this programme cluster of Agenda 21 is the use of nuclear techniques in a variety of ways to overcome problems in the areas described below:

5.1.2. Soil fertility, irrigation and crop production.

Much emphasis is given to the use of isotopes in studies leading to the optimum use of fertilizers to minimize leaching and gaseous losses. Isotopes are also used to study micro-organisms that can be utilized to fix atmospheric nitrogen so that the intensive use of fertilizers can be reduced. Efficient nitrogen-fixing trees are identified and utilized for reafforestation, agroforestry and restoration of fertility in marginal or infertile soils. Better management practices can stimulate greater provision of nutrients from organic matter in soil, better storage use of soil moisture and better penetration of roots.

5.1.3. Plant breeding and genetics.

The development of crop cultivars with pest- and disease- resistance or higher tolerance to stresses such as drought, salinity or toxic metals increases agricultural production and greatly reduces the need for applying chemicals. Eighty to ninety per cent of the more than 1900 induced mutant cultivars officially released around the world have resulted from radiation treatment. In many cases, a combination of mutation induction with conventional breeding can lead to substantial improvement in yields and product quality and sustaining productivity from dwindling land resources.

5.1.4. Animal production and health.

The efficient production of ruminants is not commonplace in most developing countries. FAO/IAEA programmes encourage isotope-aided research to provide better understanding of the relationship between animals and their environment, in order to improve animal productivity in tropical areas by feeding and breeding strategies, and disease control.

5.1.5. Insect and pest control.

In developed countries insects destroy an average of 12% of the food, feed and fibre before harvest and about 7-10% after harvest. In developing countries the corresponding losses are 2-4 times higher. The use of the sterile insect technique (SIT) is selective for the pest species thereby reducing the use of insecticides and avoiding ecological damage. It has been successfully used against the Mediterranean fruit fly, the New World Screwworm, the pink bollworm, the melon fly, three species of tsetse fly, gypsy moth, codling moth and, on an experimental basis, approximately 50 other pest species.

5.1.6. Agrochemicals and residues. (See Section 7).

5.1.7. Food preservation. (See Section 4).

5.2. *More could be done if:*

5.2.1. The programme on animal production and health, given additional resources, could be expanded to include the use of nuclear technologies in studies leading to more efficient production of fish, poultry and swine. Greater production of fish and poultry in developing countries would reduce the need to convert tropical forests into farm land.

5.2.2. Greater use of the sterile insect technique against fruit flies, caterpillars and tsetse flies would reduce crop and livestock losses and substitute for enormous quantities of chemical insecticides now used in developing countries. External funding is required for large-scale projects.

5.2.3. Additional funding would allow the programme to develop and implement agricultural countermeasures to be taken in the case of contamination caused by a nuclear accident.

6. Atmosphere, oceans and all kinds of seas

6.1. *On-going programme:*

6.1.1. Addressing the uncertainties

IAEA encourages research on local and global patterns of air pollution using nuclear techniques. Priority is given to problems prevalent in developing countries. The Agency's laboratories at Seibersdorf organize intercalibration and intercomparisons, prepare reference materials and train scientists and technicians.

6.1.2. Energy development, efficiency and consumption

Agenda 21 calls for the promotion of methodologies for making integrated energy, environment and economic policy decisions. The Agency has developed analytical tools for energy and electricity planning. Support is provided to Member States through training courses and technical assistance for energy planning and capacity-building. Because of the growing awareness of health and environment effects of different options for electricity generation, computer-aided methodologies incorporate these impacts as well as economic factors. (For details see Section 3 - Decision-making structures.)

6.1.3. Transboundary atmospheric pollution:

6.1.3.1. Accidents with environmental consequences

IAEA operates an emergency response system which can immediately provide affected countries with timely notifications plus additional information and assistance in accordance with the 1986 Conventions on Early Notification of a Nuclear Accident and on Assistance in the Case of a Nuclear Accident or Radiological

Emergency. Collaboration with other concerned organizations is assured through the Inter-Agency Committee for Response to Nuclear Accidents (IAC/RNA).

6.1.3.2. Acid rain

Acid rain due to sulphur dioxide and nitrogen oxides in flue gases from the burning of fossil fuels is causing serious damage to the environment. Innovative technology has recently been developed to simultaneously remove 90% of the SO2 and 90% of the NOx by irradiation with electron beams.

6.1.4. Protection of the oceans

6.1.4.1. Much of our knowledge about processes occurring within the oceans stems from the use of nuclear techniques. The development of new tools and further applications of well-established techniques for marine environment studies remain priority tasks for the IAEA Marine Environment Laboratory in Monaco, which supports the establishment of marine environmental laboratories in developing countries. It develops analytical techniques and organizes intercalibration exercises, instrument maintenance and training for a world-wide network of laboratories. This work forms an integral part of the Oceans and Coastal Areas programme of UNEP. (See also Section 7 - Toxic chemicals and hazardous wastes.)

6.1.4.2. IAEA is one of the sponsoring organizations for the Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP) and is also providing experts to its working groups. The Contracting Parties to the London Convention 1972 (earlier referred to as London Dumping Convention) has designated the IAEA as the competent international organization for technical aspects of sea disposal of radioactive wastes. In this context the IAEA has provided the main input to the technical part of the work of the Inter-Governmental Panel of Experts on Radioactive Waste Disposal at Sea (IGPRAD), established by the London Convention 1972.

6.1.4.3. In order to address the widespread concern on the risks to human health and to the environment associated with dumping of high-level radioactive wastes into the Arctic Seas and to examine the possible remedial measures, the IAEA is establishing an international assessment project. The project is being carried out in co-operation with the Norwegian-Russian Expert Group and will benefit from their exploratory cruises to the areas where the dumping occurred. Final results will be reported to Parties to the London Convention in 1996.

6.1.4.4. The Marine Environment Laboratory is participating in an international study identifying the behaviour and fate of land-derived pesticides in the tropical coastal environment, to assist in achieving a more integrated coastal zone management of pesticides.

6.2. *More could be done if:*

6.2.1. A greater contribution can be made to the implementation of the Convention on Climate Change through technical support to the Inter-Governmental Panel on Climate Change (IPCC). As governments come to grips with difficult decisions on energy policy, IAEA's data bases and methodologies can be put to good use. The Agency has offered to contribute to the IPCC assessment process, in particular with the assessment of the potential of nuclear power for mitigating greenhouse gas emissions. The Agency's contribution could be increased if additional funding or extra-budgetary support (e.g. cost-free experts) would be available for work on these issues in order to provide IPCC with a more comprehensive review of the information and scientific knowledge regarding the comparisons between nucleaer and other energy systems for electricity generation in relation to reduction of environmental impacts.

6.2.2. If additional funding were available, more training courses could be offered in order to enhance the relevant use of the energy analysis and planning tools distributed by the Agency. More support could be provided to Member States for establishing comprehensive data bases on electricity generation options for use in comparative assessment.

6.2.3. Subject to additional funds, further use could be made of the IAEA Marine Environment Laboratory in Monaco, as the only marine laboratory in the UN system, to carry out Agenda 21.

6.2.4. Additional funds are needed to implement to the fullest extent possible the Agency's plan for the project on assessment of radiological and environmental consequences of Arctic Sea dumping.

7. Toxic chemicals and hazardous wastes

7.1. *On-going programme:*

7.1.1. Agrochemicals, residues, and toxic metals

In its joint programme with FAO, IAEA develops appropriate nuclear techniques for monitoring pesticide residues and toxic chemicals and assists developing countries in acquiring the capacity to make such measurements. The Agency also develops "slow release" formulations of pesticides that avoid large concentrations with potential ecological damage. These programmes are backed up by intercalibration exercises, development of analytical techniques and training at the Seibersdorf Laboratory.

7.1.2. Safe management of radioactive waste

Agenda 21 encourages support of IAEA's on-going efforts to develop and promulgate radioactive waste management safety fundamental standards, and guides and practices (RADWASS). IAEA fosters the exchange of technical and safety-related information, provides advisory and peer review services, sponsors and co-ordinates research activities, provides radiological and environmental assessments of waste management facilities and repositories and provides extensive training in all aspects of radioactive waste management and disposal.

7.1.3. The adoption by consensus of IAEA's Code of Practice on the International Transboundary Movement of Radioactive Waste in 1990 underscores the political commitment of States to prevent any unauthorized transboundary movement of radioactive wastes. IAEA can send experts on request to Member States requiring assistance related to any suspected "dumping" of radioactive material.

7.2. *More could be done if:*

7.2.1. IAEA's work on agrochemicals, residues and other chemical pollutants could be strengthened as part of Agenda 21 and an expanded International Programme on Chemical Safety (IPCS) if additional funding were available.

7.2.2. Agenda 21 calls for increased assistance to developing countries for capacity-building for safe radioactive waste management. As IAEA's own funds are limited, developing countries will be encouraged to submit proposals to UNDP for "Capacity 21" support. IAEA efforts to strengthen waste management infrastructures could be greatly enhanced by funding support from UNDP.

Annex

SELECTED FOOTNOTE-A/PROJECTS AWAITING FINANCING

PROG. CODE	PROJECT NUMBER	AMOUNT*	PROJECT TITLE
C4	RAS/8/065	178,800	Marine Contaminant and Sediment Transport
D1	PHI/5/024	156,700	Biological Nitrogen Fixation
D2	RAF/5/029	773,400	Nuclear Techniques in Plant Breeding & Biotechnology (AFRA X)
D4	URT/5/015	340,800	Eradication of Tsetse Fly on Zanzibar Island
D5	KEN/5/016	57,400	Pesticide Research
	NIR/5/024	172,900	Monitoring Agrochemical Residues in Root Crops and Soils
	THA/5/041	171,400	Bound Pesticide Studies
	URT/5/014	147,900	Pesticide Residues in Agricultural Produce & the Environment
E1	RAS/6/016	132,000	Use of Computers in Nuclear Medicine (RCA)
	YUG/6/009	123,950	Absorbed Dose Unification for Radiotherapy
E4	GRE/9/017	204,000	Upgrading of Whole Body Counter
F1	POL/8/008	247,850	Electron Accelerator for Ecological Purposes (Reducing Flue Gases)
	POL/8/013	635,000	Electron Beam Technology for Flue Gas Purification Phase III
	RAS/8/069	457,000	Isotopes and Radiation in Industry and the Environment (RCA)
	RAS/8/070	624,200	Isotopes and Radiation in Industry and the Environment (RCA)
F2	ARG/8/010	230,400	Laboratory for Isotopic Research in Geology and Hydrology
	CHI/8/021	506,100	Isotopes in Groundwater Hydrology
	ELS/8/004	287,200	Isotope Hydrology in Geothermal Fields
	MEX/8/019	354,300	Geothermal Reservoir Characterization
	RAF/8/019	728,000	Water Resources Assessment in Sahelian and Sahara Countries
	ROM/8/012	84,400	Recovery of Groundwater Dating Activity by H-3 and C-14
	URU/8/009	217,600	Study of Environmental Quality of the Bay of Montevideo

* Includes 1993 and future programme years